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NATIVE EDUCATION AND LABOUR MARKET SEGMENTATION

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled NATIVE EDUCATION AND LABOUR MARKET SEGMENTATION submitted by Mitsuko Oishi in partial fulfilment of the requirements for the degree of MASTER OF EDUCATION in INTERCULTURAL EDUCATION.

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ABSTRACT

The Northwest Territories labour force for 1971 and 1981 was analysed from the perspective of labour market segmentation. Four major sectors were identified which compose the economic structure of the N.W.T.: the monopoly (composed largely of the nonrenewable resource industries), competitive, state and land-based sectors. Labour market segmentation research has focussed upon the monopoly and competitive sectors which create dichotomous labour markets, the former market providing good wages and working conditions, the latter, low wages, job insecurity and poor working conditions.

This thesis examined the distribution of the native labour force among the sectors and attempted to identify the extent to which the distribution could be attributed to their educational attainments. It was found that there was a discernible native attachment to the unpreferred sector which did not diminish with increased education. The distribution seemed to be determined more by the dynamics of the labour markets in reaction to the available supply of educated labour in the regional market. Also discovered was the power of native land claims organizations in forcing native labour redistribution into the preferred monopoly sector.

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CHAPTER I

INTRODUCTION

The native people of the Northwest Territories (N.W.T.) are broadly recognized as a relatively underdeveloped group in Canada. This recognition dates back to first contact when native cultures were seen as "primitive." It was not until World War II however that government agencies established interventionist programmes to bring the native people "into Canada's mainstream."

Central to the interventionist strategy was the delivery of mass formal education into the North. Initially, education was viewed as a means of changing the value orientations of native people so they could assimilate into the broader Canadian culture. As time went on and native people seemed to assimilate into all but the economic structure, the function of education came to be perceived more narrowly. Education was for jobs.

The perceived importance of the educational institution has its theoretical roots in what is referred to here as stratification theory. Davis and Moore (1945) and Parsons (1952) outlined a conceptual framework for understanding modern society which explained the crucial role played by education in allocating people into stratified functions within the society. From this perspective, poverty accrued to those with the least education in the least important roles of society.

Research indicated however, that educational achievement depended very much upon ascribed characteristics such as socio-economic background. Following upon this, academics focused their attention upon unequal opportunity in education.

Academics concerned with northern native problems proposed that native people were not progressing economically because they lacked jobs and they lacked jobs because they did poorly in school. Poor school performance was attributed to cultural discontinuity (Hobart, 1972; Hobart and Brant, 1966; Honigmann and Honigmann, 1970). Suggestions were made as to how curricula might be altered to overcome the cultural handicaps faced by native students. All of these studies worked from the assumption that if educational opportunity could be equalized, native poverty could be cured.

Recent studies into labour market segmentation have presented some very strong challenges to the above notion of poverty and the role of education. These studies show that poverty is not simply a function of unemployment. It can accrue to those who are employed full time in the labour market as well. The labour market is seen as segmented into two or more markets which are governed by discrete rules of capital use. These rules determine the relative value of education and of work (Bluestone, 1973; Edwards, 1979; Gordon, Edwards and Reich, 1982; Hodson, 1978). There are the favourable markets which provide work stability and good working conditions at relatively high pay. On the other hand there is an unfavourable market where there is marked job instability, poor working conditions and low pay. Disadvantaged minorities are seen to be increasingly concentrated in this unfavourable market despite increasing their stock of education. Hence, for groups such as these, poverty is perpetuated despite education and despite employment.

These findings are consistent with a critical view of formal education espoused by theorists such as Bowles and Gintis (1976) and Carnoy and Levin (1976). From this perspective, education in capitalist societies cannot change the structure which creates poverty. Indeed, the educational institution is seen to support the structure. Unequal opportunity in education is not malfunction but rather a part of the structured inequity. Because education is on the one hand held out as the method by which workers can increase their lot, and on the other hand, no changes are made in the structure which determines the distribution of wealth, contradictions are seen to arise.

In this thesis it is maintained that the segmented markets are evidence of the contradictions in education referred to by the critical education theorists. In order to test this as well as to document the possibility that native people in the N.W.T. may be entrapped in poverty in the future despite increases in their educational attainments, this thesis studies the labour market of the N.W.T. and the education of its labour force from a segmentation perspective.

It is predicted that the labour markets in the N.W.T. will reveal a basic contradiction in education: The supposedly favourable market with its inherently high work rewards will not have expanded to take in the increasingly educated thus forcing the educated to participate in an unpreferred market. These will include most of the native labour force which will have managed to attain higher education in the recent past. Though this research does not attempt to prove or disprove the existence of differentiated work rewards in the N.W.T. economic sectors, by showing the distribution of the native educated, it hopes to establish a firm rationale for and the groundwork into research to that end.

In the next chapter, a historical overview of native underdevelopment and native education is provided. Here it is maintained that up to 1971, the educational policy has done little to promote native participation in the labour force. In Chapter III, the theoretical basis for stratification, segmentation and critical education are outlined. The case is made for the need to study native poverty from a segmentation perspective. In Chapter IV, research hypotheses and the methodology for research are constructed. Finally in Chapter V, the results and the analysis of data are presented.

The data used for analysis is in the form of custom tabulations provided by Statistics Canada. These tabulations were constructed on the basis of the researcher's specifications as to labour market segments in the N.W.T. The raw data came from the Canada Population and Housing Census for 1971 and 1981.

CHAPTER II

THE STRATEGY FOR NATIVE DEVELOPMENT: A HISTORICAL OVERVIEW

State involvement in northern development is simple to characterize. On the one hand there is the treasury's interest in developing the vast nonrenewable resources in the North. On the other there are the underdeveloped indigenes who are the responsibility of the state. The state has reacted by emphasizing the need to develop the resources with the hopes native development will follow by virtue of their participation in that industry. Lack of education is seen as the only thing standing in the way of that participation.

Universal standardized education has been viewed as the one institution which can bridge the gap between traditional peoples and a modern wage-based economy. The focus upon education vis a vis the native people began shortly after World War II. This attention was heralded as an "era of awakening" by Jenness (1964). An examination of the history of this period reveals however that the provision of standardized education was more than an idea whose time had come. It was a definite reaction to the changing political and economic structure of the N.W.T., and not in itself the most productive one for the native people. The purpose of this chapter is to describe the development strategy as it historically arose and to analyze the educational reform activities of the 1970's in the light of the strategy.

The chapter is divided into three parts. In the first part, the period from contact to WWII is described. Here, the Federal Government's policy with regard to native people is described as one which is largely laissez-faire but which prefers to see native people involved in trapping and the traditional economies. In part two, the period between 1945 and 1970 is described. It is roughly in this period that a development strategy was first put into place in the North. The strategy is described as consisting primarily of standardized education for the native people with the expectation that they could eventually become involved in the wage economy based on nonrenewable resource extraction. The 1970's are described in the last part of this chapter. This period was the era of attempted government reform. The reform activities were precipitated by persistent native problems and an increasingly vocal native representation. The reforms are described and analyzed however, as being consistent with the overall strategy thus perpetuating preexisting conditions.

Contact and Disruption of the Traditional Economy

Northern exploration began with searches for the Northwest Passage by Frobisher and Hudson and many others in the sixteenth and seventeenth centuries and continued with the overland journeys of Hearne and Mackenzie in the eighteenth century. Though the explorations were often guided by the indigenes, the traditional ways of life remained largely untouched.

It was not until the nineteenth century that the northern Indian and Inuit groups began to feel the effects of contact with southern agents. Throughout that century the Indian groups that populated the Mackenzie Valley bartered local resources (including fur and meat) for basic staples such as flour, tea, and kettles from the resident fur traders. Simultaneously, the Inuit in the eastern Arctic had entered into similar barter relationships with the whaling stations which had been established by Americans. For most of that century the aboriginal economies remained relatively unchanged because the traders had demanded nothing other than that which was being produced by the traditional economies in any case (Asch, 1977:50; Jenness, 1964:11).

Asch describes the turning point for the western Arctic Indian groups as occurring around 1870 when new competition for the fur trade arose and new technology in the form of steamboats, high-powered rifles, and steel traps became available in the North. Jenness describes a similar point in the lives of the Inuit both in the eastern and western Arctic. The whaling stations located in the North year round had introduced articles such as kettles and knives upon which the Inuit had come to depend. These articles had not however, greatly altered the traditional economy. But with the introduction and spread of the rifles and whaleboats, the very hunting technology had been affected. For the Indian and Inuit alike this period was as well, marked with epidemics of measles, smallpox, scarlet fever and the like which drastically reduced their numbers and their well-being. These epidemics carried on into the next century exacerbating the hard times that were to come.

According to both Asch and Jenness, the introduction of firearms and steel traps marked the beginning of the commercialized trapping era and the dependency of the northern native people. Trapping was no longer carried out in the course of traditional food gathering but rather as a means of obtaining goods crucial to their survival. Their very survival was made dependent upon extra-regionally dictated fur markets and upon the bountifulness of nature.

The new technology served the Indian and the Inuit well over the next 30 or more years. Fur prices had sky-rocketed after the First World War. The native trappers were able to enjoy a short but sweet era of relative wealth and security in their new economic relationship with the southern agents. Unhappily, the fur prices did not remain high and the prices of goods increased with inflation. By the end of the Depression in the 1930's, the native people had begun their descent into a very difficult period in their histories. There was a scarcity of food, partly caused by nature but also by overhunting. The epidemics described earlier were still silently attacking groups of natives throughout the North. With the fur prices depressed, the native people were completely without resources to procure the goods upon which they had become dependent. There was a lack of any kind of formal network to help the starving and the sick. Though many still pursued traditional hunting to sustain themselves, they were also dependent upon the transfer payments provided by the Federal Government through its various branches.

Through the above-described period of contact and change, the administration of the North and its indigenes can best be described as laissez-faire. In 1912, the geographic boundaries of the present N.W.T. were established but it was not until 1921 that a Council was formed to govern the area.[1] Significantly, the Council was established as a reaction to the discovery of oil near Fort Norman in 1920 (Rae, 1968:35-36). The needs of the indigenes during this time of rapid change were not pressing enough issues to force the activation of a Council. The Council consisted of a loose-knit group of senior civil servants who, according to Rae, spent as little money as possible in order to maintain presence and who made as few significant decisions as possible regarding the future direction of the North.

Mining developments in the Mackenzie District[2] had brought an influx of southerners and the increased activity and residents made demands of the Council. The Council however, dealt with the matters individually, unguided by any long-range policy (Jenness, 1964:29-77; Rae, 1968:34-45). Rae deals in great length with the notion that the Federal Government showed absolutely no willingness to share in the cost of developing resource extraction industries during this period.

With regard to the government policy Jenness (1964) and Carney (1971) argue that the native people were equated with the wilderness and in that sense, left alone. Rae gives evidence however, to show that there was a policy that encouraged native involvement in the trapping industry. He described motions that were passed by the Council to restrict hunting and trapping grounds and to otherwise protect native trapping activities (1968:79). Since they did not go so far as to regulate the fluctuating fur market however,[3] their pursuits as protected as they were, were not protected enough. The decade of low fur prices prior to WWII proved very difficult for the indigenes, as previously described.

---

[1] In 1869, the Hudson's Bay Company, which had owned the area, sold the land to Canada. From that time to 1912, the land was forgotten hinterland, left completely unadministered. (Gov. of Can. DNANR, 1965; Beauchamp, 1976; Rae, 1968).

[2] Oil was discovered in Fort Norman in 1920, gold mines were established in Yellowknife by 1934, and the Eldorado Mines on Great Bear Lake were also producing by 1934.

Given this policy, there was certainly no need for educational facilities. In order to pursue trapping, all that was required of the indigenes was their knowledge and skill of the land and hunting. The following statement is taken from a Department of the Interior Report from 1934 (Bethune, 1934:55):

> The educational requirements of the Eskimos in this region are very simple, and their mental capacity to assimilate academic teachings is limited.... The established traders who are in the Territories for commercial purposes have the interests of the Eskimos at heart.

It was not surprising then, that the Government refused to financially aid the various mission schools established in the North as early as 1867. The schools were established for the "spiritual" education of the native children. Up to that point, the missions were the only noncommercial agents in the North seeking relationships with the indigenes. Inasmuch as the schools were ostensibly saving souls, they were still schools, and charges were made that they were destroying the abilities of their young students to resume trapping and hunting activities after completing their stay (Moore, 1944:9-10). It was a moot issue in that few were actually getting schooled in these hostels which Carney (1971:618) described as "fundamentally hostels for unwanted, sick, or destitute children." The only other schools in the Territories were those established in Yellowknife in the 1930's to meet the needs of the children of those attracted to the mining town.

---

[3] Asch (1977) and Usher (1970) both suggested that some form of market control would have protected the industry and the native participants.

Formal Education: A Strategy for Development

The Second World War marked the beginning of a new attitude on the part of the Federal Government towards the N.W.T. The previous policy of laissez-faire gave way to a commitment both to industry and to the indigenes. There was suddenly a willingness on the part of the public and therefore the Government to spend money on the North. The willingness to spend forced Government officials to formulate some thoughts on development. Before we go on to describe the evolution of the development strategy, let us examine the forces that were at work behind the reversal in government policy.

Rae (1968) and Jenness (1964) both identify the defence activities in the North during the War as the crucial factor which determined the change in policy. Throughout the eastern Arctic and along the Arctic coast, the U.S. military built beginning in 1942, a series of strategic airstrips. This was followed by the building of meteorological and radio stations all of which vastly improved communications in to and out of the North. The vast mapping exercises which preceded these activities provided new and valuable information about the land and its potentials for mineral extraction.

Defence activities continued on into the 1950's with the construction of the Distant Early Warning Line across the North. This project affected the northern inhabitants in much the same way that the earlier defence activities had done. Rae describes the effects in some detail suggesting that the brunt of them were somewhat diminished because of Government attempts to shelter the indigenes from becoming dependent upon the short-range project. For the southerners, the activities combined to create a general optimism about the technical feasibility of economic activity in the North.

The defence activities served to bring the North and its people into the living rooms of the South via the media. In this manner the plight of the native people came to be known. The Canadian Government's record in this respect seemed reprehensible. Now finally, the Government, with public sympathy and support, began to show an interest in the North.

Prior to these changes in attitude, the N.W.T. had been administered by a Commissioner (and his Council) who also was the Minister responsible for the Department of Mines and Resources. The native people of Canada as a whole were administered by that Department.[4] This was telling of the attitude that the Government had towards the native people. The indigenes were just one more variable that had to be dealt with in developing the mines and resources of Canada. As the mining activity in the N.W.T. increased during the 1930's, economic development meant in its narrowest sense, the establishment of mines. In its broadest sense it meant the development of the infrastructure (largely the transportation, communication and power facilities) to support those mining industries.

---

[4] Because the inhabitants of the N.W.T. were so varied as to their legal status, the administration of the North had been wrought with legalistic confusions among various branches of the Department of Mines and Resources. The Indian Affairs Branch was responsible for treaty Indians, while all other natives were the responsibility of the Territorial Council. In 1953, responsibility was consolidated into one branch (see Jenness, 1964).

By the end of WWII, the Government saw two faces in the northern problem: the mining industries, and the people, both native and non-native. By 1953, the Mines and Resources Department had been abandoned and in its place stood several new Departments, one of which was the Department of Northern Affairs and National Resources (DNANR).[5] This Department reflected the newly assumed responsibility towards the northern people, but coinciding concerns for resource and human development were not necessarily operationally related. In theory perhaps the Branches were to operate as one mind, but in practice they were most often operating quite independently.

The various government activities occurring from the time of the Department's creation can all too easily be categorized into one or the other of economic development (or more strictly speaking nonrenewable resource development), or social services development.

Nonrenewable Resource Development

Prior to 1945, the government had refused to become directly involved in northern resource development. In that year however, it determined that it should be involved. It began with the provision of hydro power and transportation facilities to service the gold mines in the Yellowknife area. A year earlier, it had taken over the Eldorado gold mines at Port Radium and made it a crown corporation due to the sensitive nature of the uranium and radium found in the ores.

---

[5] The North was still directly administered by an appointed Commissioner and Council. Over time the numbers of Council members increased as did the proportion of these members who were elected by Territorial residents. The fact remains however, that even today, executive authority rests in the hands of the Federally appointed Commissioner. In this sense, the Territorial Government remains responsible to the Canadian Parliament and not to the electorate of the N.W.T. (see Beauchamp, 1976; Gov. Can. DNANR, 1965).

Meanwhile, private industrial production in the North began to boom. Production at Pine Point and Yellowknife increased markedly after the war. In 1954 the Pine Point ore deposits were evaluated as being one of the largest in Canada. In 1955, the Rankin Inlet nickel mine began production. The potential for a solid resource-based industry seemed very good indeed. From 1960 through to 1970, production value increased from 26 million to 124 million dollars (Commissioner of the N.W.T. Annual Reports 1960-1969; Government of N.W.T. Annual Report 1970). In this period, no new mines were brought into production. The production per mine had simply increased.

After 1960, the Federal Government began to play a more active role in encouraging exploration and development of mines and oil and gas wells. The 1961-62 Annual Report of the Commissioner reported that the "new Canada Mining Regulations which were promulgated on March 3, 1961, provided generous incentives for prospectors, resulting in widespread exploration activities" (Commissioner of the N.W.T. Annual Report 1961-62:13). In 1961, with the drilling of Canada's first Arctic Island well, the exploration expenditures alone amounted to almost eighteen million dollars.

These capital intensive exploratory efforts were what came to distinguish the next two decades. The Government of Canada became not just instigator but investor. Dosman (1975:110) described the Government as willing to provide capital, at times just short of keeping controlling interest. This, he said, was "a signal to business that government-business *collaboration* rather than *conflict* was the first priority of Ottawa planners." This shift into Government financing and encouragement of exploration continued into the 1970;s and describes the situation as it exists today.

Throughout this fevered activity in resource extraction and exploration, the Government operated upon two assumptions which were and are fundamental to the understanding of the whole northern development strategy. First, it assumed that what existed in the North in terms of minerals was Canada's inheritance. As the resource potentials became known and the technological advances made extraction more feasible, Diefenbaker announced his "northern vision." That was in 1958. It was a political maneuver which used the North to rekindle an economic optimism among the Canadian electorate (Rae, 1968:357). The North was to become Canada's new frontier.

This assumption of ownership was based of course upon the laws defining crown land. The Federal Government retains control over the mineral resources of crown land and also the royalties which accrue to it. The problem with this assumption of ownership was made clear in the 1970's. What the aboriginal peoples of the N.W.T. were claiming was that they had not ceded "their" land under treaty and as such the land was not necessarily crown land. Ownership was to them, still a question (Sanders, 1973; Berger, 1977; Sutton, 1977). Essentially, the assumption of ownership seemed to be crucial in determining how the land was to be developed and for whom.

The second assumption was that the potential for economic growth in the N.W.T. stemmed primarily from the exploitation of the mineral resources. As later critics (Watkins, 1977; Berger, 1977) pointed out, diversification of the economy was never considered very seriously. It was not simply the amount of money being spent in exploration which indicated a preoccupation with the nonrenewable industries, it was also the lack of support and serious consideration of the potentials of renewable resources.

Prior to the Government involvement in the exploration business, the Government had spent quite some time and effort at establishing local industries based on renewable resources for the benefit of the native people. The Reindeer Project was the earliest, having been initiated in 1935. Later, during the 1960's, more local industries such as the fish cannery in Rankin Inlet and the Craft Co-ops across the North were established (Rae, 1968:301-304). Some of these still exist today with substantial community support and if not making great profits, they are holding their own. The problem is of course that Government interest in such projects has diminished over time. Though some of this diminishing interest was certainly caused by the increasing optimism in the mineral extraction technology, much can also be attributed to the pressures put upon the Government by conservative economists to increase business incentives and reduce social welfare spending.

For example, Rae's (1968:354) thesis in his analysis of the political economy of the North (one of the few analyses of any length), was that money spent on such "welfare" industries was money not being spent in developing the only "real" resource of the North - its minerals:

> ...public expenditures in support of resource development could, by expanding employment opportunities, contribute to the solution of the unemployment and low income conditions which created the need for much of the welfare programme expenditure in the first place.

Similarly, Anders (1972:65) who worked in the Area Economic Survey Section of the DNANR in the 1960's wrote in his economics doctoral dissertation:

> Complete acculturation of northern natives is to be expected and attempts to arrest the process by essentially discriminatory policies can only reduce the natives opportunity choices....most natives will join the economy as wage earners in the mineral and service industries.

In time, the industrial projects initiated outside of the nonrenewable industries became the backwaters in the greater development strategy. The Government N.W.T. Annual Reports which gave enthusiastic descriptions of the projects in 1965, gave cursory mention to the projects in 1980.

The two assumptions described above worked to establish the primacy of nonrenewable resource extraction in the overall strategy for the development of the N.W.T. The result of this primacy was the dichotomization of economic development and social development. No longer was it necessary to evaluate an economic development scheme with reference to the particular people who were to become involved in its labour force. In the vision of the future, native people were not made synonymous with the land or their culture. Indeed, the vision conceived of land use which was quite inimical to existing native land use patterns.

The dichotomization was made even more evident with the ongoing political development of the N.W.T. When in 1967 the Carrothers Commission Report and its recommendations were accepted by the Canadian Parliament, most of the legislative and administrative responsibilities were transferred from the Federal Department of Indian Affairs and Northern Development to the N.W.T. Council. Control and use of the crown land remained in the hands of the Federal Government (Gov. N.W.T. Annual Report 1969). The Federal Government therefore continued to retain control over nonrenewable resource development and the royalties accruing from them.

The Territorial Government was left to legislate and manage the renewable resources. It may have at this time legislated a more important role for renewable resources in its own economy but its budgetary restraints were severe. However, the Territorial Council from 1970 through to 1979 seemed particularly interested and partial to the perceived potentials of the nonrenewable industries.[6] During this period, any economic alternatives were being effectively ignored by both the Federal and Territorial Governments. Thus the relative autonomy created for the Territorial Government proved insignificant in terms of economic development policy. 1970 did however, mark the beginning of a new era in social development.

Social Service Development

While technical feasibility may have been the single most important factor behind the Federal Government's movement into nonrenewable resources, its movement into social services was more complex. It was made complicated by the fact that the North was populated with two distinct groups: a native group, largely indigent and relying upon hunting, trapping, and transfer payments for its subsistence; and a non-native group, both settlers and transients who in the 1940's were largely associated with the mining activities in the Mackenzie District. While the indigence of one group was a pressing problem, the demands of the other was an insistent one. The settlers were demanding services such as schools, hospitals, water and power facilities (Rae, 1968:37).

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[6] In 1977, during the Mackenzie Valley Pipeline Hearings, the Assembly came out strongly in favor of this mega-project illustrating the biases of that Assembly (see Berger, 1977:vii).

It is difficult to ascertain which group's needs were viewed as more important to the Government of the time. What is clear however, is that the non-native group was viewed as a pioneering one, forging the way for "civilization." Their demands presented the antithesis of the traditional native way, a model to be held up before the native people to show them *the* way. The settlers were welcomed and were considered a necessary component of northern social development. An example of this kind of thinking is contained in a comment made by Phillips (1967:245) in reference to political development in the North. Phillips had been commissioned by the Federal Government to write on the North on the occasion of Canada's centenary.

> The seeds of a real northern government were planted as more independently minded individuals entered the Territories after the mining rush around Yellowknife. Their efforts were focused first on local government.... The growth of a new class...was a healthy sign in the political growth of the territories.

It was commonly held that the institutions of southern civilization could be established for the benefit of the settler group and the native people would simply fit in. Insofar as this was so, it was essentially an assimilationist policy.

There was a perceived need for intervention, not simply emergency measures such as medical aid or transfer payments, but intervention in the lives of the native people which would affect their future. It appears over and over in the Government and historical literature: The traditional culture and skills were forever lost; the future, that is the onset of civilization as it existed in southern Canada was inevitable; the trapping economy was not a viable pursuit (see for example Jenness, 1964; Gov. Can. DNANR, 1957; Phillips, 1967).

> Through no fault of their own, trapping has ceased to provide...income and it is incumbent on the Canadian Government and the Canadian people to introduce them to other activities that will make them self-supporting again (Jenness, 1964:103).

Given that the past was not viable and the future inevitable, the question for Government became, "How are we to prepare the native people to fit into the future?".

Government spending and planning focused on three areas: health, community development, and education. The first of these was an emergency-like response to the health conditions of the indigenes. Soon after the war the health care of the indigenes was reorganized so that one body would have jurisdiction over all. This new Department of National Health and Welfare, armed with a large budget, sent field workers into the North and in a matter of a few years was able to reduce morbidity rates and the spread of disease to standards more acceptable to the watching Canadian public (Jenness, 1964:150).

A second area of activity in terms of social service development was Government work in community development. In 1954, Northern Service Officers (NSO's) were recruited to prepare Inuit communities for local self-government. Zarwiny (1973:87) described their specific purpose as being "to guide, educate, and train the native people in the matters of administration and politics of government." The NSO role was dissolved in 1959 leaving in its place area administrators and other more specialized community educators such as nurses, social workers and teachers. For the Indian communities, the Indian Affairs Branch provided community development officers in the mid-1960's but in the N.W.T., there was only one such officer (Ponting, 1980).

In 1967, a formalized structure for creating responsible local government was established. With this structure came the community development officer whose task was specifically to train native people in local government. The idea was to phase out area administrators in favor of elected community representatives.

Education was the third area of Government activity. It was here perhaps more than any other area that the conflicting needs of the native and non-native groups came into play. On the one hand there were the non-native people demanding "proper" schooling (Carney, 197:616) and on the other hand there were the native people whose needs were seen by many to be more basic than that.

Throughout the rest of Canada, standardized education had been effected and the non-native group felt the need for their children to be educated in the same way. The architects of the new school system in the N.W.T. were faced with a dilemma. They could not see standardized education working in the best interests of the native people at that time. Though they did not use the terms "standard" and "nonstandard" with the presently held understandings of their functional differences in society. They did use terms such as "proper" and "transitional" and "vocational." Regardless, it was evident that they felt misgivings about simply serving the Alberta curriculum to the native people.

The Moore Report which resulted from the first comprehensive survey of northern educational facilities makes recommendations for native education which seem ludicrously far fetched when compared to the standardized curricula being instituted in other schools across Canada.

Moore (1944) took it upon himself to devise economic activities for the native people which he felt were viable and then proceeded to define the curricula for these. One of his ideas was the "Community Center Project." He identified certain geographic locations where he said "the chiefs are men of outstanding qualifications and are trying to improve the conditions of the Indians under them but have not the necessary authority to enforce cooperation" (1944:15). Could these settlements not be used so that "not only education but also health, recreation and a more satisfactory economic existence could be organized for the native people"? Another of his recommendations was that "school barges" be built which could take "health, education, conservation programs" and "modern methods of handling fish and fur products" to camps along the Mackenzie River (1944:13).

Similarly, Grantham, who undertook a survey of the educational needs of the eastern Arctic in 1948 saw that schooling in preparation for wage employment was quite beyond the needs and even the grasp of most of the Inuit. He observed:

> The fact is that the average native does not care for a steady job because he finds it too confining and this must be kept in mind when educational objectives are being set. (1943:4)

He went on to explain that insofar as at present, the native relied on his traditional skills, it would do him a disservice to fill his head with "much of the information and training generally associated with elementary education in Canada" (1948:8). He felt it preferable to rely on what economic activity seemed to provide at least some subsistence than to chase dreams.

MacKinnon, the first Inspector of Schools for the N.W.T., in his 1946 report, held the view that schooling was essential for the future welfare of the native people. He agreed that perhaps in the eastern Arctic, special seasonal schools were the only practical solution, but for the other native people, schooling was essential. He states however, that the curriculum of the native student had to "safeguard for him his traditions, skills and values upon which depend his pride of race and ultimately, his own self-respect." He stated further that the "ultimate objective must be a curriculum specially prepared for the school in the N.W.T. based upon the special conditions prevailing there" (1947:45).

And finally, Low, an advisor on education to the N.W.T. Council, suggested in 1951 that native schooling must be based upon special curriculum with vocational bias, "derived not only from activities such as hunting, trapping, and fishing, but also those of a technical nature in the environment" (1951:9). His suggestion was that technology be adapted to traditional economic activities.

In each of the above recommendations, there was a tacit recognition of the need for schooling to correspond to some real economic activity. There was perhaps the understanding that without such a correspondence, it would be difficult to legitimize the institution. In their recommendations it is interesting that most provided for the possibility of relating education to the indigenous economies by enriching them with technology.

It is significant that none of the recommendations described above were heeded. While the surveys were being amassed, it was the standardized form of education which was put into place in the schools. Provincial curricula remained ensconsed in the northern schools until 1971. By rejecting the nonstandard forms of education recommended, the

Government was rejecting the notion of education being the transmission of skills to *aid* native people in their participation within the new economy.

By opting for a standardized curriculum they made native participation in the new economy *contingent* upon their getting the education. Phillips, who said in one breath:

> The aim of its N.W.T. education system is not job training: it is preparation for citizenship in a broader sense, the pupil returning to the trapline being just as important as the potential nuclear physicist. The purpose is to open doors particularly to a culture with a written literature and world thought. (1967:240)

said in another, "given any average Canadian standard of education, the northerner has little to fear in his economic future" (Ibid:239). Similarly, Jacobson, Superintendent of Education in 1956, argued that "given necessary education and training there is no reason why Eskimo and Indians cannot satisfactorily fill many of the jobs in northern Canada which would otherwise go to people brought in from the South" (1956:12). Ten years later, Thorsteinson, yet another superintendent, suggested that the native people had internalized the need for education because they wanted to have the "choice open to them" (1965:106).

By the end of 1955, measures had been taken to centralize the administration of education in the N.W.T. The disparate schooling interests (the churches, mining camp schools, the native children of the Federal Government, and the "other" children of the Territorial Government) were all consolidated under the Department of Northern Affairs and National Resources. Now finally, all of the native children, treaty, nontreaty, Metis, and Eskimo had become the responsibility of one agency.

As this push to expand schooling facilities was made, Lesage, then

Minister of the Department of Northern Affairs, assured critics that the schools would not recklessly assimilate native students. He described a "special curriculum for Indian and Eskimo children who are not likely to go beyond grade school" (cited in Carney, 1971:444). Contrary to these claims, there was no special curriculum developed. During the 1960's some efforts were made to adapt the curriculum material but as evidenced in the Annual Education Reports of the Department of Northern Affairs (Gov. Canada DNANR, 1964-68), the adaptations were largely in the form of making more relevant teaching materials using objects and names more familiar to northern children. The adaptations were nothing more substantive than that.

This then, was the content and the form of schooling instituted throughout the North. This form of schooling such as it was, was the major institution preparing native people for the future. There was no other effort that touched as many native people and required as much money. The planned development of the nonrenewable industry was not essentially for the native people, it was for the Canadian coffers. That this would provide an economic base for the N.W.T. was incidental. Development of the native people was conceived purely and simply as assimilation into the wage economy of the nation with education as the screening device for that assimilation.

We turn now to the third and final part of this chapter. Here we will examine the net effect of the above-described strategy, upon the native people by 1970, a full thirty years from the time that the Federal Government began its active intervention in the lives of the native people. We also describe and evaluate the Government response to the reality of persistent and in some cases worsening underdevelopment.

Persistent Problems

The development of social services on the one hand and the exploratory and production increases in the resource industries on the other, should have produced some positive results in the native labour force by 1970. This was not necessarily the case. Problems with poverty and its accompanying ills became worse in many cases. In this final part of Chapter II, we look for native progress in health and welfare, educational attainments, and labour force participation particularly between the periods 1961 and 1971.

Health and Welfare

Health.--The data in Table 1 on health conditions comparing the N.W.T. to Canada show that severe disparities still existed in 1971. Further, a Department of Indian Affairs survey showed that 48 of the 56 settlements throughout the North had no facilities for resident physicians (Chang-Mei lu, 1972). What physicians were permanently available resided solely in settlements of sufficient population to warrant them and those settlements together composed the bulk of the non-native northern population. In terms of general health and nutrition, a survey completed in 1972 indicated that the "nutritional status of native people was worse than that of the general Canadian population" (Statistics Canada, 1975:197).

Table 1

Health Conditions in the N.W.T. and Canada for 1971

Health Conditions	N.W.T.	Canada
Persons per physician	1,310.0	768.0
Infant mortality per 1,000 live births	37.4	15.5
Dysentery per 100,000	132.3	8.7
Hepatitis per 100,000	981.5	32.4
Meningitis per 100,000	10.6	1.4
Tuberculosis per 100,000	103.2	16.1

Source: Statistics Canada, Canada Yearbook 1975

Welfare.--Throughout the 1950's and 1960's, settlement life gradually took over what remained of native camp life. In the minds of the administration, the settlement was the front line in the battle against poverty. Native children were to be educated in the Day Schools rapidly being built throughout the northern communities and meanwhile the adults were to be educated in the ways of local government, administration, health and, in some cases, the workings of a local industry.

The planning and building of Inuvik best represents the enthusiasm and optimism with which the social service administrators approached the northern community. Inuvik was built between 1954 and 1956 and was equipped with all the modern community services such as sewer, water and garbage facilities, a new school and hospital, and administration buildings to manage Inuvik and its outlying communities. Significantly, the housing and plumbing benefits applied only to those involved in administering the social services. Natives were by and large excluded, creating from the start, racial segregation within the community.

By the late 1960's, it was evident that such communities were far from ideal. Honigmann and Honigmann in their 1970 study of Inuvik described the plight of the native people. In 1967, 42% of the native families were receiving some form of social assistance (1970:244). Thirty-six per cent of all native people over 16 years of age had, in an 18 month period, been convicted of some crime (ibid:249). Honigmann and Honigmann described the heavy consumption of alcohol and its effect upon family stability (ibid:97-107). They compared the use of alcohol in Inuvik in 1967 with its use in Frobisher Bay in 1963. Social life in Inuvik, they reported, was much more dependent upon alcohol than in Frobisher Bay. Was Inuvik an isolated phenomenon?

A study done of Frobisher Bay in the early 1970's indicated that it was simply a matter of time. Finkler (1975) showed that the annual average percentage change in liquor sales in Frobisher Bay between 1964 and 1972 was +19% which compared to +15% for the entire N.W.T. (ibid:47). To the extent that alcohol was a large factor in crime and family conflict it is not difficult to imagine what impact this rate of alcohol consumption had upon the social lives of the native people in Frobisher Bay. Most communities in the N.W.T. were being afflicted with the same social problems described by Honigmann and Honigmann, and Finkler (Clairmont, 1963; Ferguson, 1961; Dailey and Dailey, 1961; Finkler and Parizeau, 1974). Finkler reported that for the N.W.T. as a whole, deaths from accident, injuries, and violence had increased by 40% between 1969 and 1973.

The aim of the research projects described above were similar. They were attempting to associate social and cultural disorganization with rapid social and cultural change. Whether the effects were the result of change per se or the type and direction of change, the effects were the same. The studies made the native social problems a matter of public record. Increasingly, native people and community workers as well, got the courage to speak up and to complain. Indeed, as we shall see later, even Government administrators joined in the chorus of criticism against the administration.

Education

From 1955, when the Federal Government centralized the administration of Territorial education, to 1969 when the Territorial Government assumed control of that administration, great quantitative progress had been made in the educational arena.[7] In the 1953-54 school year, there existed only 17 Federally operated schools and 775 students (Gov. Canada DNANR, 1964:47). By 1969-70, there were 55 such schools and 6,968 students (Statistics Canada, Education Division, 1972:29). Where in 1953-54, 21% of native school age children were actually enrolled in school, in 1970 the N.W.T. Department of Education boasted that its enrollment captured between 95% and 98% of the total school age population (Gov. N.W.T. Department of Education, 1972b:1).

There exists no data which describes educational attainment of native students from 1955 to 1970. One source describes a 218.8% increase in secondary school enrollment between 1960 and 1970 and a 330.8% increase in grade twelve enrollments (Statistics Canada, op. cit.:25). These figures include non-native students who are likely to be over represented in the secondary grades but some native progress is a likely component of the figures. Data exists showing native cohorts moving through the school system from 1963 through 1966. From these it is apparent that larger and larger cohorts of native students attained higher and higher grades through the years (Gov. Canada DNANR, 1964).

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[7] As part of the decentralization from Federal to Territorial Government in 1969, Education was transferred from the Department of Indian Affairs and Northern Development Education Branch, to a new Department of Education in the N.W.T.

Another area of progress during the 1960's was in the development of vocational training facilities and programmes. Here again, data exists to indicate participation in the programmes but data does not exist to indicate attainments within the programmes. Table 2 gives some idea of the numbers participating in vocational training in the N.W.T. between 1963 and 1970.

Table 2

Total Enrollment in Vocational High Schools and Public Trade Schools for the N.W.T., 1963-64 to 1969-70

Year	Vocational High Schools	Public Trade Schools
1963-64	-	129
1964-65	-	147
1965-66	36	231
1966-67	102	162
1967-68	414	233
1968-69	448	128
1969-70	459	212

Source: Statistics Canada, Education Division 1972: 63-68

Clearly, the number of students participating increased over the years though the proportion of these that were native can never be known. Similarly, data exists to show an increasing number of students becoming registered apprentices in the skilled trades during this period. From 1963 through 1970, 550 apprentices were registered in the N.W.T., both native and non-native (Statistics Canada, 1972:68).

Despite the paucity of data, two things can safely be assumed. First, it can be assumed that a greater proportion of the native labour force age population had been educated in 1970 than in 1960. Second, it can be assumed that the average native educational attainments in 1970 were higher than in 1960. Whatever the extent of progress on these two scales, they were overshadowed with reports of the failures in the school system.

The optimism of earlier decades was clouded with reports of persistent native age-grade retardation and early drop out. These problems were compounded or associated with deviant behavior and low self-esteem among the students (Hobart, 1972; Sindell and Wintrob, 1972; Honigmann and Honigmann, 1970; Gov. N.W.T., 1972b). The common worry was of course that if the school system was not functioning properly to educate the native people, the native people were going to have trouble getting jobs or advancing in the labour market. The association between the labour market and the school was not commonly questioned. Attention was focused upon the school system in an attempt to make them function better for the native people. Academics attributed the problem to the discontinuity between the home and the school and recommendations were made to ease the discontinuity.

Labour Force Participation

In the 1950's the Government envisioned the North as becoming a fully developed economy, based in large part upon resource extraction with its full complement of wage employment opportunities. As it happened, the employment opportunities occurred more in the area of the expanding civil service than in the mineral resource industry. Nonetheless, the number of jobs did increase. Given the tremendous push to provide universal standardized schooling and vocational training in the N.W.T., how did the native population fare?

Any positive effect of schooling upon native labour force participation should have become evident during the period 1969-1971. An examination of the census data for 1961 and 1971 shows that there was a definite decrease in hunting and trapping as a major means of support. In 1961, 57% of the native labour force was engaged solely in hunting and trapping. In 1971 this number was reduced to 10% (Gov. Can DIAND N.W.T. Statistical Abstracts 1973 and 1977). The decrease in "land" activities did not convert into labour force participation in other industries. Let us examine Table 3.

Table 3 shows that *over the ten year period between 1961 and 1971, the numbers of native people entering the labour force did not increase to the point of changing their participation rates.* If anything, there was a decrease in the participation rate from 39.7% to 38.3%. This lack of progress is significant. It suggests that in terms of participation in the labour market, the net effect of ten years of schooling upon the population was nil. The Table shows as well that over the ten years, the *native proportion of the labour force decreased by 4.7%.* Whereas in 1961, native people occupied 35.8% of the labour force positions, in 1971 they occupied only 31.1%. The non-native labour force expanded by 57.8% while their share of the labour force increased by 4.7%.

Table 3

N.W.T. Labour Force* Participation Rates Native** and Non-Native for 1961 and 1971

		1961		1971	
		N	%	N	%
N.W.T. population of Labour Force Age (15-64)	Native	6,731	51.0	8,900	46.5
	Non-Native	6,446	49.0	10,220	53.5
	Total	13,177	100.0	19,120	100.0
N.W.T. population participating in the Labour Force	Native	2,671	35.8	3,405	31.1
	Non-Native	4,781	64.2	7,545	68.9
	Total	7,452	100.0	10,950	100.0
Increase in Labour Force	Native				27.5
	Non-Native				57.8
	Total				46.9
Participation Rate	Native	$\frac{2,671}{6,731}$	39.7	$\frac{3,405}{8,900}$	38.3
	Non-Native	$\frac{4,781}{6,446}$	74.2	$\frac{7,545}{10,220}$	73.8
	Total	$\frac{7,452}{13,177}$	56.6	$\frac{10,950}{19,120}$	57.3

* Those who had never worked or who had worked but not in the year prior to census taking were not included in the Labour Force. Those who had worked in the year prior to census taking but who had not actively looked for work were not included in the Labour Force (this does not include those who would have looked but believed there were no jobs in their communities).

** Native to include all Indians, treaty and non-treaty, and Eskimos. Non-Native to include all others.

Source: Government of Canada, DIAND, Statistical Abstract 1973 and Statistical Abstract 1977.

How can we explain decreasing native labour force participation rates and decreasing native labour force proportions even though native people had ostensibly increased their educational stock? The probable answer lies in the form of non-native in-migrants. Table 3 shows us that between 1961 and 1971, the non-native labour force increased by 57.8% compared to the 27.5% increase experienced by the native population. The large increase in the non-native labour force is explained in part by net migration figures for the N.W.T. The North experienced two major influxes of workers - one soon after WWII and another between 1961 and 1966 (Gov. of Canada DIAND 1973:Table 11). Despite the influx, the non-native labour force participation rate remained relatively stable indicating that a good proportion of the in-migrants were absorbed into the labour force. Expansion of the economy, represented by the 3,498 new positions presented in 1971 that were not there in 1961 (Table 3), did not bring native labour force participation rates up because in all likelihood, in-migrant labour took up the new positions.

Accepting that at one time it may have been necessary to import educated or in other ways qualified labour, why was it that after at least 10 years of universalized education, the native people appeared no further ahead? As we shall see next, some pointed to a lack of industrial activity and hence jobs, while others pointed to the native manpower suggesting they may have made some educational gains but it was simply not enough.

Native Awareness and Government Reform

The continuing health problems, the increasing social problems, the lack of student progress in the education system, and the lack of native movement in the labour market combined to create a certain discontent among the native people. By 1970, individuals were beginning to speak out in public forums.[8] Native issues oriented magazines such as the *Indian-Eskimo Association of Canada Monthly* and the *Inuit Monthly* served to focus even more attention upon the troubles of the northern native people. It was at this time too that the various native organizations such as the Indian Brotherhood of the N.W.T. and Inuit Tapirisat of Canada came into being.

What began as individual native people voicing their concerns, grew by 1975 to be powerful native organizations taking the Canadian Government head on with their land claims proposals.[9] As native awareness and voice grew, and as the native problems became more obvious, the Territorial Government departments offering social services became increasingly uneasy.

Education.--It was in this context that the newly formed N.W.T. Department of Education took control from the Federal Government in 1969. Being a new administration, it could afford to be critical of preexisting education policy. It undertook, in 1971, a project of self-appraisal and redirection. The result was the *Survey of Education* published in 1972 (Gov. N.W.T., 1972b).

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[8] See for example The Leader Post (Regina), October 8, 1968:16; The Edmonton Journal, July 21, 1970:15.

[9] The Committee for Original People's Entitlement (COPE), and the Indian Brotherhood of the N.W.T. presented land claims in 1975. The Metis Association of the N.W.T. and the Inuit Tapirisat of Canada presented theirs in 1977.

Some of the recommendations contained in the *Survey* were instituted immediately by administrative fiat. These were largely changes in curriculum content, offering for the first time an alternative to the Alberta curriculum, but also, changes in the forms of pedagogy were instituted. The changes were effected through the publication of what became known as the "Red Book" (Government N.W.T., 1972a). It was essentially a handbook for teachers to guide them in creating curricula which were multilingual and multicultural. These changes answered charges being made by native people and researchers alike, that educational failures were the result of the discontinuous nature of the school and home environments.

Other recommended changes however, could not be implemented without benefit of legislation. Indeed, the two following recommendations challenged the very core of standardized schooling:

> -Provision for much greater flexibility in the operation of the school to meet the special cultural, social, and economic needs of northern residents.
>
> -Removal of all ordinances or regulations making school attendance compulsory. (Gov. N.W.T., 1972b:107-108)

These recommendations were sincere enough attempts on the part of the educational administration to remove the credentials function of education and replace it with a preparatory function more compatible with the real world of the native people. The *Survey* stated:

> The conventional approach to public school education has been centered on the assumption that all students could be prepared for further training and or employment. This assumption is not valid for it excludes the possibility that there will be students for whom further training is not possible or even desired. Furthermore, it is a dubious proposition at best to assume that...there would be

> employment available at the termination of the formal education process. (Op. cit.:62)

If the students were not going to get jobs, what other skills might the schools give them to help them to lead productive lives?

The changes were recommended as part of an overall revision of the N.W.T. School Ordinance. During the Legislative Assembly debate of these recommendations, it soon became obvious that the Assembly was not prepared to allow such drastic changes in their education system. With regard to compulsory education, Member of the Legislative Assembly, Steen, representing the western Arctic, stated:

> ...when I went around to my constituency, I also reminded the people...of the importance of education and showed them what to expect if they get no education.... Their consensus was that we must have education in the North and they agreed with the ordinance except for the [non]compulsory education portion of it. (Gov. N.W.T. 1976:33)

Such was the position maintained by the majority of the assembly members throughout the debate thus insuring the defeat of the contentious clause.

The recommendation that the operation of the school system be made more flexible referred to the daily, monthly, and yearly schedules. Inevitably, the debate revolved around the effect of such flexibility upon the "standards." While most of the members agreed that the schools should address the special cultural, social, and economic needs of the students, they could not see why most of these could not be taken care of in the "cultural inclusion" programme. These programmes were usually locally defined and taught by community elders. They were very much separated from the day-to-day curriculum of the school. The Minister of Education reassured the members that this programme was "usually scheduled for a period of time...not to the exclusion of the core subjects" (ibid:670). He later emphasized, "We will use every means to ensure that we are in fact providing a comparable kind of education that a student would get anywhere in the country" (ibid:674). Whatever else the finally legislated ordinance may have changed about the school system, including local control, it did not change the basic premise of the system which was compulsory standardized education.

The issues arising from this debate are strikingly similar to the post-WWII debate concerning education in the North. Both raised the issue of the need for some transitional mechanism between the culture of the school and the culture of the native people. Both suggested systems of schooling which were "nonstandard" in the sense of comparability to the predominant schooling system. In both cases it was educators who proposed the changes for they could not ignore the resulting handicaps faced by the native students. Most significantly, in both cases, the desirability of standardized education was never pointedly debated though it was the form instituted and maintained throughout the discussions. The persistence of the issues and their manner of resolution point to the possibility that perhaps the real problem was not being addressed.

It is argued in Chapter III that education in capitalist countries has been used more as a credentialling agent than as an institution imparting skills necessary for the workplace. As such, relative educational attainment is more significant in the marketplace than absolute educational attainment. The high school diploma means little until its holder is put into the context of the educational attainments of those around him. For the credentialling function to work it is essential that the curricula be as standardized as possible.

Subpopulations working from curricula which have been "tampered with" to suit their interests and strengths would clearly put others at a disadvantage.

From this perspective it is clear that the reform recommendations made by Moore and others in the 1940's and the changes advocated by the Department of Education in the 1970's would appear threatening to those who would profit from a more standardized form of education - in this case the settler population in the N.W.T. Though native people have consistently been disadvantaged by standardized curricula, many of them hold to the belief that it is their only hope and as we saw earlier, reject the notion that their education should be changed to suit their conditions.

Despite the predominant belief in education as the remedy to northern native problems, many native people remain confused and dissatisfied with it. They note the exceptions to the rule which seem all too prevalent and perhaps even increasingly evident. They note the many young adults with high school education who cannot get jobs. They note instances where natives with little education work beside those southerners with much more education and how these southerners seem to have to be taught their jobs. In the following chapters we explore the possibility that there may be a basis to these observations and consequent dissatisfactions.

Social Services.--The reform movement which swept through the Department of Education was paralleled in other social service departments. In both the Departments of Social Development and Local Government, "local control" became a major issue and policy and administrative changes effecting decentralization were touted as breakthroughs toward greater responsibility.

From the standpoint of political maneuvering, it is easy to see how local control could assuage critics without disrupting basic policy. The rules for development were the same except it would be administered at a more local level. Inasmuch as more native people would likely be involved in administration, there was no provision made to reverse the source of final decision making from government to people (Gov. N.W.T. Annual Reports, 1970-1982).

Economic Development.--While some Territorial Departments reacted to the times with attempts to reform their internal workings, the Territorial Assembly itself and the N.W.T. Department of Industry and Development focused upon the need to expand the economy. In 1970, the Department of Industry reported that the "planning of the Mackenzie Valley Pipeline [was] the major activity for the year" (Gov. N.W.T. Annual Report, 1970:118). The Pipeline, a mega-project "unprecedented in terms of capital expenditures by private enterprises" (Berger, 1977:ix), was but the forerunner of a series of projects using the Mackenzie Valley corridor for transportation of gas and oil out of the North. Though clearly the project was fuelled by the profit motive, the project was justified to the skeptics as activity which would provide employment for the native people and spin-offs into other sectors of the economy (Berger, 1977:134-139).

This activity provides yet another example of the dichotomous nature of the whole development strategy for the native people. While pipeline project planning was being undertaken by the Department of

Industry, the Department of Education was obviously neither consulted or aware of the tremendous impact the pipeline would have upon the region. In fact, as was described earlier, the Department of Education administration believed that it should be in the business of educating native people to a life of unemployment.

Conclusion

In this chapter we have traced the evolution of the Federal and Territorial development strategy for the native people of the N.W.T. We found that the Federal priority was to encourage and finance development of the nonrenewable resource industries. There was an expectation that the native people would eventually be absorbed into an expanded economy based upon these industries. Their participation was contingent however, upon the acquisition of the appropriate educational credentials. Other than a few local industry projects, education became the only institution dealing with native development directly.

When by 1971 there was an obvious lack of progress, and native unrest was becoming evident, both the education system and the direction of the economy came into question. Questioning merely led to decisions which indicated a perception that it was not the basic strategy which was wrong but perhaps the intensity (or lack of it) with which they were being pursued. When radical changes were recommended for the education system, the N.W.T. Legislative Assembly rejected the meat of the reforms and vowed instead to pursue standardized education with new vigor. The conservative move coincided with a government preoccupation with the prospects of a Mackenzie Valley pipeline. Thus was entrenched a development strategy begun at mid-century - a strategy focusing upon nonrenewable resources and the education of the native people in preparation for competition in the wage economy.

In the following ten years to 1981, what progress was forthcoming for the native people as a result? Did they experience increased labour force participation and group mobility? In the next chapter we explore two theories. One supports the development strategy adopted by the Federal and Territorial Governments and which predicts native assimilation into the labour force with the attendant economic and social development. The other challenges this mainstream theory with the assertion that educational expansion alone will not ensure the development of groups such as the native people and that poverty among workers arises not from stratification of ability but rather from structured asymmetries in the labour market.

CHAPTER III

EDUCATION AND SOCIO-ECONOMIC DEVELOPMENT: THEORY AND RESEARCH

In the second chapter, we traced the development of an education policy in the N.W.T. which came to assume a pivotal role in the social and economic development of the native people residing there. The importance attached to education in this situation is but one instance of a world-wide twentieth century faith in education as a cure for social and economic inequity. This faith comes with the corollary understanding that persistent poverty, be it for individuals, groups or nations, exists because of certain worker characteristics, not the least of which is the lack of education.

Does native poverty and underdevelopment exist in the N.W.T. because of a lack of education among native people? Can their development be insured by simply expanding native schooling? This chapter explores the theoretical foundations of those who believe that schooling can reduce poverty. Their collected work is referred to here as stratification theory.[10] This theory explains that poverty on an individual basis can be eliminated through schooling and occupational mobility. It is applied to Third World nations to explain that societal poverty can be overcome through education and modernization.

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[10] The use of the term "stratification" in referring to mainstream sociological work is taken from Kreckel (1980) who made the case that the concept of stratified society was problematic for sociological theories which view society as composed of conflicting groups more than as stratifed groups.

This theory is then challenged with empirical evidence from both industrially advanced and Third World nations. An alternate theory is proposed as better explaining/predicting the failure of education in eradicating poverty among Third World nations and the disadvantaged in the advanced capitalist nations. The theory is referred to as labour market segmentation. The critical education theory of Bowles and Gintis (1976) is used to complement the segmentation theory. Both are subsumed by a conflict theory orientation to understanding society.

From the perspective of labour market segmentation, inequity is the result of the social structure of capitalism. Variations in worker well-being are seen to have their source not so much in individual traits as much as in the structure of the labour markets to which they are attached. Workers with poor jobs have "adequate skills but an inadequate opportunity to utilize them" (Bluestone, Murphy and Stevenson, 1973:13), that opportunity being structured by set relations between the markets. From this perspective, the "need" for the poor to exist is determined not by the characteristics of the poor but rather by the structure of the economy. Educational expansion alone cannot change this structure. The persistence of poverty despite educational expansion points to the structured nature of poverty.

Social Stratification and Education

Mainstream sociology in America has used the concept of stratification to understand inequality. Davis (1942) and Davis and Moore (1945) described society as consisting of a hierarchical ordering of people based largely upon the importance of their functions to the society at large. The component strata were viewed not as "ultimate" but rather as "intermediate" groupings within the society. Members within a stratum had their functions in common, but the strata together worked toward the "ultimate common values" of the society (Davis, 1942:314). Inequality arose due to the varying degrees of power and prestige associated with each stratum. Those sociologists concerned with inequality turned their attention to the process of status attainment.

Davis pointed out that status could be either ascribed or achieved and Parsons (1952) maintained that modern society could be identified by an achievement orientation. Parsons' (1959) subsequent work elaborated upon this orientation describing the crucial function played by formal education. His concepts of technocracy and meritocracy were fundamental to his argument and formed the basis of much of the research and social policy in areas of social inequity for the next quarter century. It certainly can be identified as the basis for the native development strategy undertaken by government in the N.W.T.

Technocracy and Meritocracy

Parsons (1952) held that allocation of status based upon ability and achievement was not just a mark of modern society; it was its driving force. It was a basic value orientation towards achievement rather than ascription which enabled technological advance and industrial development. Mifflen and Mifflen (1982:312) summarize the technocratic-meritocratic perspective thus:

> The technocratic aspect entails the belief that production increasingly requires more advanced technical skills which are brought about through education. The meritocratic perspective holds that the more able people, especially those with the higher measured intelligence, are in a better position to attain these technological skills because of their superior ability, and for this reason they merit higher rewards.

It is easy to see the crucial role played by the educational institution in realizing both the technocracy and meritocracy. Parsons (1959) outlined the institutional function: first to socialize children with the appropriate attitudinal orientations which would support a meritocratic society, and the appropriate skills to perform in a technocratic society; and second to select the most capable individuals for allocation to the high status roles.

The research question which resulted pertained to the importance of education in imparting the skills and knowledge necessary for performing in the workplace. The theory of human capital (Schultz, 1963) answered that education did impart skills which specifically or generally added to productivity in the workplace for it was consistently rewarded with higher status and consequently, income. From this perspective education could be viewed as an investment by the person acquiring the education. The employer who hires educated employees understands that though he must pay higher wages, his on-the-job training costs are reduced and his productivity is increased. Schultz added that investment in schooling by a nation could be measured in terms of future growth in the national economy.

Another research question arising from the technocratic and meritocratic thesis pertained to the extent to which status attainment was indeed a meritocratic process. The most significant finding of the status attainment researchers such as Blau and Duncan (1967) and Sewell and Hauser (1975) was that though educational attainment was the most important factor in determining adult occupational status, ascriptive variables arising from social and economic background also figured largely in determining educational attainment. Cultural deprivation and cultural discontinuity research explored further the effect of socio-economic and cultural background upon success in schooling. These latter areas of research have occupied much of the attention of academics studying native welfare.

In cultural deprivation theory, the culture of the native student is viewed as "simply inadequate to prepare students for the dominant educational system" (Djao, 1983:175). The solution is to provide some sort of cultural intervention in the early years to give these students a "head start." The discontinuity theory was researched by Hobarts (1972), Hobarts and Brant (1966) and Honigmann and Honigmann (1970) in their studies of native Inuit students in the North. Hobarts and Brant (1966:59) noted that the curriculum being perpetrated upon the native people reinforced the notion that "there was nothing in native lore or tradition which is worth learning." This created a discontinuity of socialization thus creating native failure in schooling.

The preponderance of studies related to socio-economic status, cultural deprivation and cultural discontinuity reveals a preoccupation with the notion that equality of opportunity was the solution to social inequity. Given that the jobs within certain of the strata of society are less important and therefore less remunerative than others, one must expect a certain proportion of society to suffer poverty and powerlessness. The social concern is not this inequity; it is rather the inequity created by the lack of a truly meritocratic system of status allocation. The effect of this upon social programmes was of course to focus attention on providing fair access of disadvantaged groups to schools and generally monitoring them to make failure more equitable. It was hoped that in so doing, group mobility (of the disadvantaged) would rise as a reflection of their real ability thus eradicating poverty for the group, if not for all individuals.

This understanding of the cause and the solution to pockets of poverty within society was applied in the intersocietal context to understand the problems of Third World countries. A cluster of theories referred to as modernization theory resulted. Many of the basic assumptions used to understand those problems were used to understand native poverty and underdevelopment and for this reason, the theory is briefly described below.

Modernization

The modernization paradigm arose out of an attempt to find solutions to the chronic poverty experienced by the Third World nations. The solution to that poverty was seen to lie in modernized industrial production (Rostow, 1956; Viner, 1953; Rusk, 1966). The capital, technology, and human resources initially required to build the modern economy were understood to be imported (Viner, 1953:22). But it was also understood that the imported resources would work to build within the underdeveloped region, a strong infrastructure which would eventually become self-sustaining and free of foreign aid. It was within this structure that "nationals" were seen to benefit in the long run.

Modernization itself was viewed as an inevitable historic process, a process undergone by the now industrially advanced societies and a process which would be telescoped for other societies through careful planning and aid. Hoselitz (1960:43) described the work of modernization theorists to be not in determining "whether or not, or even in what form economic growth is to take place, but how easily and smoothly." Modernization then, was theorized to be a unilineal and inevitable process with all societies placed at various points along the continuum.

If the solution to the problems of poverty was modernized industrial production, what was the source of the poverty? It was to be found in the "traditional" nature of underdeveloped societies (Hoselitz, 1969; Lerner, 1958; Inkeles and Smith, 1974). A dichotomous traditional-modern typology was constructed and used to determine the kinds of changes which would have to be planned and encouraged in order to provide the right backdrop for economic "take-off" to occur.

It was here that the institution of education came to bear the burden of modernization. Theorists pointed to the normative frameworks of traditional societies which were seen to engender the attitudes and behavior orientations inconsistent with the modern economy. Formal education was perceived as being able to resocialize individuals with the proper orientations, not the least of which was the achievement orientation. Schooling could be seen as a systematic introduction to role allocation by achievement and merit. It would contrast starkly with the other traditional institutions practicing role allocation by ascription (Hoselitz, 1960; Hanson and Brembeck, 1966; Curle, 1970). The end result was perceived to be a more "productive" society which would, by definition, be modernized and no longer suffering from poverty. Stratification theory as it is used to understand Third World poverty leans heavily on the notion that poverty does not have to exist. Modern technology and industry is seen to produce wealth. Equity is produced not by.redistributing given wealth but rather by having the poverty stricken produce wealth for themselves. They are seen to do this by increasing their educational stock.

Application to the N.W.T.

Stratification theory and its offshoot, modernization theory, are at the core of Government and academic understandings of native poverty in the North. As detailed in Chapter II, there was the assumption that the poverty witnessed in the 1930's and 1940's was the result of the insufficiencies of the traditional ways. There was also the assumption that native participation in a wage-based economy was inevitable and, further, that it was the answer to the poverty being witnessed. Most importantly, there was the assumption that schooling would socialize the traditional peoples in the ways of the modern world so that they would be better equipped to participate in it, either in the South or as it was envisioned for the North.

The initial utility of the modernization paradigm gave way as the assimilationist policy began to take hold in the North. Two of the greatest preoccupations of the modernization paradigm were to justify "foreign" investment and involvement, and to develop indigenous support for modern institutions implanted in supposedly traditional societies. These were not problems for Canada's North.

In our northern frontier, the primary problem was a logistical one as institutions were established in geographic regions for all intents and purposes "uninhabited." It was a matter of legislation rather than persuasion inasmuch as the North was viewed simply as a part of Canada. The northern native people were to be viewed first and foremost as Canadians and the vast and untapped territory they came with was to be viewed as Canada's (Phillips, 1967:166). Theoretically these native people could participate in the wage economy anywhere in Canada but the reverse was also true. Southern labour could migrate north and call the North their home. Where the Third World nations could legitimately use the word "foreign" to identify inflows of capital, technology, and people, the native people of the North could not. As such basic institutions as law, education, and municipal administrations were established, and as the Federal Government became more and more involved in the mineral extraction industry, underdevelopment as applied to the Third World did not seem to fit. The persistent poverty of the native people could no longer be attributed to the lack of a wage economy, particularly if migration was encouraged.

The theoretical reference point for academics and administrators alike turned away from building southern institutions in the North and focused upon creating conditions for equality of opportunity. As described earlier much of the theoretical work done in the area of cultural discontinuity was advanced through research into northern native failure in schooling. And as a result of that research the Territorial Department of Education endorsed and encouraged the incorporation of native knowledge into its curriculum (Gov. N.W.T., 1972a). It was an attempt by the Government to address the problem of inequality of opportunity created by a "discontinuous" curriculum. If the educational situation could be corrected, it was thought the problem of native poverty would disappear.

Challenging Meritocracy and Technocracy

The technocratic and meritocratic hypotheses of education have been challenged by researchers representing diverse theoretical attachments. They have been challenged in their application to modern as well as underdeveloped societies. We turn now to these challenges which are largely based upon empirical findings and which come from many theoretical persuasions.

One of the first to challenge the technocratic hypothesis was Berg (1970). He maintained that skills in the workplace were learned on the job and not in the schools. Later, Bowles and Gintis (1976), Jenks (1979), and Collins (1979) in separate studies, all found that only a very minor portion of economic success of an individual could be accounted for by the cognitive skills learned in school. Collins (1979) challenged the hypothesis from another angle. He showed that there could be found little or no correlation between educational attainment and job performance.

Historical studies of schooling's relationship to productivity eroded the technocratic theory even more. Collins (1979:15) and Dore (1976:84) both reported that growth spurts in the Gross National Products in several countries were not preceded by increases in secondary school and university enrollments. The only changes in the education of populations which could be attributed to corresponding growths in national product was the progress towards mass literacy. Dore (1976:86) noted as well that the Third World movement toward higher education in the 1950's was met by 1965 with evidence of greater underdevelopment. And as far as the explanation that education had inflated to keep up with changes in technology was concerned, Collins (1979) found, after studying the skill needs of categories of occupations, that more workers were being underemployed over time. This was particularly true in the Third World. The numbers of overeducated are seen to stand in stark contrast to the underdeveloped state of these societies (Foster, 1965; Blaug, 1974; Hussain, 1976; Nyere, 1975).

The above cited researchers maintained that education did not provide a technocratic function as much as it did a credentialling one. As Hurn (1978:39) put it, it is educational credentials rather than cognitive skills that predict future status and earnings. What the many researchers did not agree upon was what precisely was being credentialled. The status attainment researchers saw the credential as a symbol of ability in its most general sense (see Boyd and Humphreys, 1979:6). Collins (1979:19) saw the "standards of sociability and propriety" as the variable being credentialled. Bowles and Gintis (1976) saw the vocational schools, high schools and universities all credentialling different internalized behaviors and norms. Regardless, the studies together effectively challenged the technocratic hypothesis which maintained that education provided skills which would in turn increase productivity.

The meritocratic hypothesis is one which can be better understood using Hurn's (1978:90) distinctions between the "strong" and "weak" versions of the hypothesis. The weak version states that there is equality of educational opportunity. Research based upon this hypothesis is best represented in Canada by the work of Porter (1965:168). Porter cited such variables as income, wealth, family size, and regional differences as providing barriers to equal educational opportunity.

The strong hypothesis states that the "amount of occupational mobility from generation to generation should increase with educational expansion" (Hurn, 1968:90) with a net result of wealth redistribution. Hurn cites the work of Blau and Duncan as providing the most persuasive evidence refuting this hypothesis. Their study used an American population sample:

> After controlling for the effects of the expansion of higher status occupations in the society as a whole, they concluded that the relationship between father's and son's status showed no consistent change between 1920 and 1960 (Hurn, 1978:91).

Hurn also cited studies which showed that differing rates of school enrollment in different societies did not produce corresponding rates of aggregate mobility. In a similar vein, Thurow (1972) and Jenks (1979:190) gave evidence to show that while the distribution of education has moved in a direction of greater equality in the U.S., the distribution of income has not. Clement's study of the Canadian corporate elite has revealed an increasingly concentrated elite, with fewer taking more of the economic resources available (1975). He too made the distinction in the kinds of equality possible. He used the term equality of condition to be distinguished from equality of opportunity and argued that the lack of equality of opportunity in Canadian schools arises from the lack of equality of condition (1975:7).

Many researchers have pointed to evidence of an increasing discrepancy between the rate of educational credentialling and the mobility rates. This phenomenon is commonly referred to as the credential crisis (Collins, 1979; Thurow, 1972; Hurn, 1978:72-78; Bowles and Gintis, 1976:213-223). Collins (1979:191) described the crisis thus:

> As of the 1960's, the credential system went into a state of explicit crisis. The rising credential price of jobs had been going on for many decades, but at this point, the change began to be consciously seen as inflationary. With near universal high school completion and one-half the youth cohort attending college, these formerly valued goals lost much of their appeal. They no longer guaranteed a respectable job....

Collins argued that inflation was caused by all groups moving ahead keeping their relative positions intact in the educational queue but other researchers showed that the education gap among groups had narrowed somewhat (Hull, 1982; Bluestone et al., 1973:51-62). Despite a narrowing in the education gap, there seems to be no corollary narrowing in the standard of living gap between the groups. In other words, the inflationary trend in education has not affected all groups equally.

Hull (1982:19) for example, cited evidence from a study of unemployment and education among black and white workers in the U.S.A. The study showed that the unemployment rates among black university graduates was higher than white high school dropouts. Similarly, Bluestone et al. (1973) studied the effects of education on earnings and found that while within black and white groups education could be seen to pay off, between group studies showed quite different rates of return to education. The differences in the rates were attributed in both Bluestone et al.'s and Hull's studies to discrimination pure and simple. Bluestone et al. hypothesized that the more discrimination a group meets, the more education would be required to overcome entry barriers.

This hypothesis was shown to hold true in the case of the N.W.T. native groups. Here, Yan Kuo Chun (1972) showed that if education, age and work experience were held constant, the Indian group would increase their earnings by 287.3% *if they were white.* The Inuit group could be seen to increase their income by 143.2% and the Metis by 65.4%. The Indian groups could be seen to suffer the greatest discrimination with the Metis the least in reference to the white population.

When educational credentials in the labour force was seen to be surplus, racial criteria could be seen to be used in selecting persons for placement in the labour market. This element of racial discrimination is viewed by stratification theorists as dysfunctional, reducing the overall efficiency of the meritocratic system. From this perspective, the dysfunction is also seen as reparable by monitoring situations and incidents of discrimination as they occur (Mifflin and Mifflin, 1982:49-50; Vanfossen, 1979:132; Boyd and Humphreys, 1979:8-9). Hull (1982) identified three definitions of racism: individual, institutional, and structural. The stratification perspective has dismissed most racism as having its source in individuals, and at times within institutions.

The surplus of educated workers, particularly nonwhite, created by the credential crisis surely shakes the confidence of all groups in education as a legitimate institution for selecting and allocating individuals in the labour market. The phenomenon reveals also that discrimination is harder at work than meritocracy.

While the empirical evidence cited thus far has debunked claims that the educational institution works to correct social inequity both within and among societies, note must also be made of arguments against some of the fundamental assumptions made by modernization theorists regarding the source and the solution to Third World problems. Dependency theorists such as Baran (1957) and Frank (1969) have challenged the characterization of underdevelopment as the persistence of traditional society. Frank (1969) questioned the exclusiveness of the characteristics that were used to identify the traditional and modern societies. Could not such a characteristic as ascription in role allocation be as readily found in modern societies as traditional ones? Another premise challenged was that modernization was the end product of a unilineal and inevitable historic path. The question was asked, "Do the underdeveloped societies of today really constitute neophyte forms of modern societies?" The dependency theorists pointed to the histories of the underdeveloped societies making it quite evident that these societies were not pristine civilizations isolated from contact and interaction with other societies. They argued that the underdeveloped societies had had long histories quite divergent from the experiences of the now developed societies, histories which have led them to the state of underdevelopment. Given the empirical challenges set forth above, it would seem that stratification theory and the attendant research in the area of human capital and status attainment do not and cannot explain the persistent poverty experienced by disadvantaged groups such as the northern native people despite their increased educational attainments. In the following section, an alternative perspective for viewing poverty and the role of education is posited.

Labour Market Segmentation

It was noted earlier that stratification theory explained poverty as resulting from personal inadequacies. From the perspective of conflict theory, poverty is part of the social structure. Capitalist society is viewed not as stratified and integrated functions working towards common ideals but rather as composed of distinct groups with conflicting interests, groups which differ in power and wealth. The social structure which supports the domination of the capitalist class is viewed as the source of the most fundamental inequity. Superimposed upon this inequity is the structured inequity within the working class. It is labour market segmentation theory which describes and explains this latter inequity.

Labour market segmentation theory and research is not meant to override the importance of what Kreckel (1980:529) referred to as the primary asymmetery - that between the capitalist and working class. According to Bowles and Gintis (1976:90) three-quarters of the total income received by Americans has been in the form of wages and salaries and yet inequities within that group accounted for less than half the inequities existent in the U.S. The greater proportion of the inequity was attributed to the differences between the capitalist and working class. The secondary asymmetery, that existing within the working class has been the object of recent study in order to understand the "composition and development of the working class and its sources of heterogeneity, rather than suggesting the emergence of a new class" (Edwards, 1979:165).

Labour market segmentation theory and research is outlined below, followed by an interpretation of the place of education in that theory. In conclusion, the implications of the theory for understanding native poverty and the strategy for their development are set forth.

Segmentation Theory and Research

Much of the empirical work in the area of labour market segmentation followed upon initial claims that urban black and other working poor participated in a labour market distinct from urban white males (Piore, 1971; Bluestone, Murphey and Stevenson, 1973; Gordon, 1972). For example, Bluestone et al. noted that many blacks were neither uneducated, in ill health, nor for other reasons erratically employed or unemployed, and yet they suffered from chronic poverty. They observed that the work rewards for blacks were very much determined by a labour market which seemed quite distinct from that of typical urban white males. They were, on first observation, made distinct by differential rewards to human capital variables such as education and experience. They concluded their study with this:

> This study has attempted to turn the normal study format inside out. While similar variables are studied, the focus is on how little, not how much, is explained by education and other human capital factors.... After controlling for variables like education, there remains a large variance in average wages and low-wage employment between race-sex groups.... The critical variables that account for much of this...are industry and occupation. (Bluestone et al, 1973:144-5)

The work that followed attempted to verify the hypothesis of differential returns to a primary (favorable) and secondary (unfavorable) market (Osterman, 1975; Beck, Horan, and Tolbert, 1978; Stolzenberg, 1975; Bluestone et al., 1973). Their findings represented a very real challenge to the mainstream perspective that education was a major determinant of wages. The rules for returns to human capital investment seemed only to apply to the primary market, and further, wages seemed to be higher there, relative to the secondary market.

In their attempts to verify the differential returns hypothesis, researchers observed differences in the organization and conditions of work by sector as well. This phase of the research relied heavily upon analysis of occupational and intrafirm segmentation (Piore, 1975; Osterman, 1975; Stolzenberg, 1975). The primary market was seen to be composed of jobs with mobility ladders, relative independence, good physical working conditions, and job stability. The secondary market was seen to be lacking in these attributes.

At this point, following the earlier suggestion of Piore (1971), researchers such as Osterman (1975), Edwards (1979), and Gordon et al. (1982) allowed that there were perhaps three rather than two labour markets resulting from distinctions in labour. There were jobs within the primary sector they noted, which were for all intents and purposes very much like those in the secondary sector but which were characterized by higher pay and stability with opportunities for mobility. The difference was seen to be created in large measure by the presence of unions (Edwards, 1979:171). This category of work was labelled the subordinate primary sector to distinguish it from the independent primary sector composed of jobs which required "general rather than firm-specific skills" and "independent initiative or self-pacing" (ibid:174).

Given that there were indeed segments in the labour market creating two and possibly three different markets with different rules for work reward and advancement, what were the implications for social policy?

Were these segments in fact dysfunctional elements in an otherwise continuous stratification of jobs which allowed unrestricted mobility based upon ability? If so, solutions could come in the form of affirmative action programs and other interventionist policies to monitor the system against "unfair" differentiations.

One group of theorists rejected this perspective (Gordon et al., 1982; Edwards, 1979; and Hodson, 1978). They emphasized the impermeability of the segments. This impermeability has been identified by many as providing the theoretical salience of the segmentation approach to understanding labour markets (Clairmont et al., 1983:256; Krahn, 1983:80). By impermeability they do not mean a lack of equal opportunity in gaining access to preferred markets. They argue that it is not enough to work on the supply side variables hoping to increase chances for individual mobility. Rather, the impermeability they speak of refers to immobility created by structured differences in the labour markets. The segments are such that they resist attempts to change the distribution of labour out of one market and into another, regardless of the labour force characteristics.

Early on in the development and research of segmentation work, Edwards (1973:3) called for a theoretical approach to labour market segmentation which would focus on the structured nature of the segments.

> ...by focussing narrowly on labour market processes, they have remained largely taxonomic and descriptive. Whether or not they are adequate for classifying market behavior, they do not explain that behavior as part of the broader economic process. Specifically, these concepts were not grounded in an analysis of the development of capitalist production,, and hence the analytic framework on which they are based is either ad hoc...or ahistoric....

He spent a good part of the next ten years researching precisely the "broader economic process" from which he suspected the segments to have arisen. His *Contested Terrain* (1979) and Gordon et al.'s *Segmented Work, Divided Workers* (1982) richly document the historical processes that shaped and reshaped the labour process lending much credence to the proposition that segmentation in the labour market could indeed be understood as a "functional" rather than dysfunctional element of society.

The concept of dual economy is at the heart of their argument. Edwards (1979) and Gordon et al. (1982) basically used the historical materialist approach to identify and describe how the labour processes and the labour markets in the U.S.A. have undergone major structural transformations. In the initial stage, labour is seen to have been proletarianized by competitive capitalism. In the next stage, labour is seen to have become homogenized by advances in technology. In the present stage, (which incidentally, Gordon et al. view as being in a state of decline) labour is seen to have become segmented by the dual factors of monopolization of capital and unionization (Gordon et al., 1982). (The driving force behind the transformations are seen to be those situations which were described by Marx as contradiction, conflict and resolution).

The dual economy is seen to be the result of the ascendency of monopoly capital without the complete disintegration of the former competitive mode of production. The monopoly and competitive firms are seen to operate in an unequal exchange relationship (Krahn, 1983:82-83; Gordon, 1982:190-191). The former allows the latter to continue by refusing to operate where market competition is great and production costs vis a vis profits are high. The flux and uncertainty of the competitive market in turn creates a relationship between it and the "reserve army" of unemployed (Edwards, 1979). In much of the segmentation literature, the monopoly firms have come to be identified as making up the core economy and the competitive firms are seen to compose the peripheral economy.

If the distinguishing features of the monopoly and competitive sectors lie in their differentiated use of capital, then Hodson (1978) argued, the state should be recognized and a tripartite economy model should be the basis of analysis. Hodson saw the state as functioning to respond on the one hand to the need for monopoly capital to socialize costs such as required for transportation and communication and on the other hand, to respond to the "demands of the working class...to provide public services and welfare." He saw the state as having emerged "in a dialectical relationship to the development of the monopoly sector of private capital" (1978:431). Hodson's (1978, 1982) work has helped also to set the parameters of labour market segmentation research. He warned against the tendency of occupational segmentation researchers to treat variables such as "percentage black, earnings levels, and measures of job stability" as both dependent and independent variables (1982:733), charging that such a practice leads to circularity and adds nothing to our understanding labour and inequity. He emphasized the theoretical potential of the concept of capital structure (i.e., the differentiated structure evolving from different uses of capital) and argued that capital structure should, for the time being, be the major independent variable if segmentation studies are to be furthered.

The capital sectors are hypothesized to produce differentiated labour markets based upon differential ability to maximize profits (Hirsch, 1980; Hodson, 1978; Edwards, 1979; Gordon et al., 1982). The competitive firms, because of the instability of their markets and relatively low profits are composed in large part of unstable, and strictly controlled jobs requiring fewer skills. The monopoly firms, having greater control over product demand and having higher profits, are composed largely of bureaucratized jobs and jobs requiring more skill.

The picture is not one however where the productive sectors line up perfectly with primary and secondary occupations. Hodson (1978:434) and Hirsch (1980:136) suggest that the monopoly sector is composed largely of primary occupations but is not devoid of secondary occupations. Conversely the competitive sector is composed largely of secondary occupations but contains a cell of primary occupations as well. References to the labour market associated with the monopoly sector cannot be understood then, simply by substituting it with our understanding of the primary labour market. We will address the implications of this when discussing sectoral effects upon disadvantaged groups.

In addition to affecting working conditions and work rewards, the sectors are theorized to differentially affect the bargaining power of its workers (Kalleberg et al, 1981; Bluestone, 1973) which in turn reinforces the differential work rewards. Worker unions are seen as being effective in bargaining for worker rewards and rights only in the monopoly sector where worker stability is seen as necessary for profitability. Theorists such as Clairmont (1983) and Kreckel (1980) interpret unionism as a form of social closure which works because it gains advantage by taking away from other workers. A union is able to make gains for its workers but the "condition for this 'bargain' is that another part of the labour force carries the 'buffer' function and thus the full burden of flux and uncertainty" (Clairmont, 1983:267).

Accepting that the productive sectors do indeed structure the conditions and rewards of work and even the bargaining power of the workers, it is important to know how workers come to be distributed among the sectors. Is it a random allocation? Empirical work has revealed that segmentation lines tend to follow ethnic, gender and age boundaries (Gordon et al., 1982:204-212; Edwards, 1979; 194-197). The non-white, women and young are found concentrated in the competitive market. How does this occur?

Factors such as lack of information as to the proper channels for entry, the inability to migrate to the place of employment, and traditionally accepted employment patterns all are seen to come into play in reducing the number of applicants from disadvantaged groups (Piore, 1971; Bluestone, 1973; Krahn, 1983) at the outset. Once applications are received, discrimination is seen to come into play.

In comparing the racial and gender makeup of the primary and secondary occupational sectors, Piore (1971:91) theorized that the different sectors required different behavioral traits and that these could be associated with "a few readily assessed traits such as race, demeanor, accent, educational attainment, test scores and the like." He referred to employer use of such associational characteristics as statistical discrimination. He added that "discrimination pure and simple" was also in evidence.

The presumed "trainability" of groups such as women, blacks, and native people is not entirely unbased. Labour market segmentation theory explains however, that the bad work habits or unreliability associated with the groups arise not from their inherent inability but rather from their association with the secondary labour markets (Piore, 1973; Wien, 1983). The instability of the workplace may foster behaviors which are unacceptable to the monopoly sector marketplace but studies have shown:

> ...how easily the skills required for moving from one segment to another are acquired by most people, and how little constraining are intrinsic intelligence or initial values and orientations when economic expansion and social change make mobility possible. (Berger and Piore cited in Wien 1983:8)

For groups such as immigrant workers, youth, women and blacks there is also the effect of their association with what is referred to here as "an alternative role" (Kreckel, 1980:538-539). The concept was originally used to describe the refuge that immigrant labour in West Germany could make in returning home if they could not obtain employment. This concept is similar to Piore's (1971) and Bluestone's (1973:30-31) references to urban blacks, Hispanics and other discriminated races in the U.S. participating in "irregular markets" to supplement poverty level and unstable work in the competitive sector. Similarly, women can be seen to rely on their husbands and youth on their parents. In each case the bargaining power of the group in the marketplace is small, possibly because the urgency to deal with them as social problems is mitigated by an attitude by employers that these groups can take refuge in their alternative roles if they remain unemployed - they seem somehow to "manage."

Piore's (1971) explanation for the social divisions of labour in occupational segmentation were used to explain the social divisions among the productive sectors. Hodson (1978) argued that the monopoly sector used statistical discrimination against women and blacks, etc.

But he added that occupational segmentation was still at work *within* the sectors as well. Consequently, while statistical discrimination would exclude blacks *from* the monopoly sector, statistical discrimination would also be used against blacks within the monopoly sector such that they would be excluded from the primary occupations within the sector and confined to the secondary occupations. In his study, Hodson (1978:457) found that "within labour markets the distinction between monopoly and competitive sectors seems to have little effect on racial discrimination in hiring." In other words, there was no difference in the degree of racial inequality between the monopoly and competitive sector. He found a great deal of difference though between these two sectors and the state in terms of the proportion of black workers and income inequalities.

Baron (1975:211) has argued that the degree of congruence found between the racial structure and the labour market segments is not accidental. It reveals, he says, the structured nature of racism in advanced capitalism but he warns against the collapse of one into the other. Some other model is required, he argues, for understanding the racial structure itself. Krahn (1983:99) best states the value of segmentation theory in researching race and sex inequities:

> ...other theoretical models of racial and sexual stratification are required to explain these preexisting divisions.... However, the labour market segmentation approach to studying the social relations of production can still be useful. While it does not answer the question "why?" it can guide examinations of "how" women and nonwhites are encouraged or pushed into secondary labour markets and discouraged or barred from entering more preferred arenas of employment.

Education and Segmentation

It was reported earlier that evidence had been gathered indicating differential returns to education by sector. As Hodson and Kaufman (1982) noted, this test has been considered crucial in the critique against the neoclassical theories of labour market processes and social stratification. They noted also however that results of the many tests have not been as consistent as might be expected. Zucker and Rosenstein's (1981) comparison of four segmentation taxonomies developed by other researchers showed, for example, that there was not a uniformity in findings regarding years of schooling and returns to schooling. Hodson and Kaufman suggest that such inconsistencies are bound to occur where "internal motivation for the study from within the model itself has never been elaborated" (1982:734). In the following pages, an attempt is made to more clearly formulate the place of education in labour market segmentation.

Our understanding of the functions and limitations of formal education in the segmented labour markets of capitalist societies is guided by the critical education theories of Bowles and Gintis (1976) and Carnoy and Levin (1976). Two principles basic to this model of education are correspondence and contradiction.

The Correspondence Principle.--Critical education theory explains the correspondence principle as the tendency for institutions, in this case the educational institution, to function in correspondence to the social relations of production of that society (Bowles and Gintis, 1976:131-141). The social relations of production are the "rules" determining the distribution of productive resources and surpluses produced. Given this correspondence, the education system cannot create changes in society such as the redistribution of wealth or elimination of poverty. Education *can* be seen however, to[3] respond to changes which occur in the fundamental structure of society, that is in the relations of production.

The relations of production are seen to change in response to the constantly changing nature of the technical and organizational aspects of material production (the forces of production). The change from competitive to monopoly capital activity is one example. Here, the constant need to increase productivity forced the evolution of monopoly capital. This differentiation of capital created in turn, segmentation in the labour market. Bowles and Gintis (1979:177-183) and Edwards (1979:177-183) contend that standardized and bureacratized schooling was a response to this segmentation of labour. In this manner, throughout American and Canadian history, education is seen to respond to structural changes so as to correspond to them. Reforms which contradict the structural relations will fail to be adopted (Carnoy and Levin, 1976:42).

How is education seen to correspond to the social relations and forces of production today? Bowles and Gintis (1976:125-148) describe how the schools differentially socialize children to "fit" the social relations of work. They argue that children are not socialized according to a unitary value system but that different tracks are set each corresponding to places in the hierarchical division of labour. The academic track corresponds to the professional/managerial segment, the vocational tracks correspond to the blue collar working segment, and the failures correspond to those who are erratically employed or unemployed. This tracking corresponds well to the labour markets described earlier. Clement's study of the Canadian corporate elite supports this view (1975). Clement comes to the same conclusion as Bowles and Gintis that unequal opportunity in education is not an aberration in an inherently meritocratic society. It is rather an inevitable result of the unequal conditions structured by the relations of production.

Third World studies from this perspective found that tracking occurred there too but the tracks did not correspond to the social relations of the work place as much as it corresponded to the social relations between First and Third World nations (Carnoy, 197; Fanon, 1963; Friere, 1971). The schools were seen to transmit a cultural bias through the curricula and teaching methods which maintained the cultural hegemony of the First World over the Third World.

The above described socialization is carried out, claim Bowles and Gintis (1975:104-108) under the ideological facade of meritocracy and technocracy. These pervasively accepted ideologies are seen to legitimate the inequities produced in the workplace as well as in society generally. Stratification research and theory perpetuates the facade: if it were not for the group's lack of education, they would not be poor; if it were not for the society's backwardness they would not be poor.

Contradiction and Reform.—In capitalist society, technology and the organization of work are seen to change in response to the need to produce greater surpluses. Contradictions result however when the relations of production which govern the allocation of the surpluses are not changed thereby restricting consumption of the surpluses. The contradictions create tensions in society which demand resolution (Anderson, 1974:37-41). Depending upon the intensity of the demand, societal institutions respond by making reforms. In most cases the adjustments are minor ones which function to quell immediate unrest without threatening the existing relations.

Bowles and Gintis (1976:210-223) regard the credential crisis as evidence of contradiction. They explain that the expansion of education has increased productivity but it has also increased the demand for jobs - good jobs with good wages. This demand is in essence a demand for an increased share of the produced surplus. The relations of production remain unchanged and the demands are not met. The quality of credentials is questioned, curricula are altered, and admissions quotas and tests are imposed which do nothing to increase the proportion of good paying jobs. They simply devalue existing educational credentials. The spiral of educational inflation is the result (Dore, 1976).

This is the present state of education in the advanced capitalist societies. As the contradiction grows, the expected response is of course some confusion as to the real "value" of education, followed by questions which focus more and more upon the relations of production. Bowles and Gintis (1976:220) anticipate that this contradiction in higher education "represents an opportunity for radical change" - real reform, if you will.

How do we understand the concept of contradiction in the context of labour market segmentation? When segmentation of capital first presented itself historically, there may well have been a tight fit between education, occupation and work rewards. The knowledge, abilities and behaviours imparted through education by perhaps the twelfth grade were very useful to the corporate bureaucratic structure. With the expansion of schooling through mass education however, an increasingly better educated work force was put into the marketplace without increasing the attendant work rewards. There was not a proportional increase in good paying jobs in the monopoly sector to absorb the number of educated. Contradictions in education became evident at this point and according to segmentation research are becoming even clearer. The very fact that segmented labour markets based on productive sectors became evident is in itself evidence of the contradiction.

Critical education theory then, forces the need to view economic and labour market segmentation as a dynamic process rather than as a description of a static structure. Thus, the relationship of education to the economic structure varies as the economic structure changes. Segmentation researchers who attempt to formulate one kind of relationship lack an understanding of the dynamics. Though their observations may be correct, they must go further and contextualize the observations in terms of the stage of segmentation they are observing.

The one constant which can guide our attempt to understand education and segmentation is that the monopoly sector is more able to afford the educated. Thus, in the situation where educated manpower is a scarce commodity, the monopoly sector will tend to have more credentialled and educated (in terms of years schooling) than the competitive sector (Bluestone et al. 1973; Beck et al., 1978; Hodson, 1978). It is theorized that the monopoly sector is forced to afford these credentialled workers because of the high cost of worker mistakes and high cost of training. The result in empirical terms is differences in education across sectors after controlling for occupation (Bluestone, 1973:80-104). This is a contradiction of the mainstream theory's assertion that the allocation of workers to the range of occupations available is determined in large part by matching occupational task to educational background.

An extension of this situation is where the supply of educated is so low that the monopoly sector must accept less educated workers than it normally would. Such a situation occurs during times of industrial expansion or when there is a lack of interregional migration by more educated workers. Bluestone (1973:104-124) for example studied the effects of geographic location upon mobility chances and he found as did Krahn (1983) in his study of monopoly industry expansion in a single industry town, that mobility chances were greatly increased for individuals, regardless of education, when monopoly firms located or expanded in areas close to them.

Conversely, when the supply of educated is greater than demanded by the monopoly sector, they "spill over" into the less preferred sectors where they may find employment in similar occupations but at less pay and with worse working conditions. Whether monopoly sector firms take on less educated workers who they would normally not consider or whether more educated workers find themselves in the competitive sector, equal education is rewarded differently by sector and this contradicts the premises of stratification theory which view modernized society as consisting of one hierarchical set of social roles where education is a major determinant of placement.

It is rationalized that education is related to occupation through a matching of skill and knowledge requisites to jobs. The labour market it would seem, determines the acceptability of how well they match. What needs to be recognized here is that the market demands that a competitive market must exist to support the monopoly market. As long as this is so, there will be inequity, regardless of the educational stock of the whole population. Moreover, as education becomes more pervasive, racial, cultural, and gender differences are not seen to disappear. The criteria required for entry are fluctuated to meet sectoral needs for profitability but resist attempts to fluctuate the criteria to meet social needs.

There are two situations where social needs are forced upon the market tendency toward profitability. These are worker unions which determine entry criteria among themselves, and state enforced affirmative action programmes. We saw from a previous discussion in this chapter how unions can force their demands upon employers. Acquiescence is interpreted by most segmentation theorists however, as acknowledgement of the stabilizing effect of union organized work and the long-term positive effects on production. Union workers are seen to practice a form of closure preventing competition from other workers and often the criteria for entry into the unions are credentials which any employer might enforce. Thus part of the bargaining strength of union workers is effected at the expense of other workers. Nonetheless, it is an avenue for advancement through methods other than simple educational superiority.

State affirmative action programmes lead more towards answering social needs insofar as they are imposed regardless of how much they may effect maximization of profit. Such action may come in the form of equal pay for equal work and education, or in the form of worker quotas, both of which are seen to positively affect disadvantaged minorities such as women and blacks. As Hodson (1978) points out, such practice is prevalent in the state sector due to self-imposition. It may or may not affect the educational make-up of other sectors depending entirely on state policy and the ability or the will of the state to enforce such action.

Worker unions and affirmative action reveal the extent to which the fluctuating educational criteria can be made to work in the favor of workers but the extent of their potential influence must not be exaggerated. Changes which do not affect the structural relationship between the sectors will not affect the worker distribution in any way other than to perhaps change the "faces" in any given labour market.

The above analysis of education and labour market segmentation leads us to understand two things. First, to the extent that education is used to allocate workers to preferred and unpreferred markets, it is more a legitimation for the allocation by race, culture and gender lines due to the structured inequity of standardized schooling itself. Second, due to the massive expansion of education, members of minority races and cultures, and women are increasing their educational stock in relation to other workers but the social divisions of labour are remaining intact and contradictions in education are becoming more evident. This adds strength to the argument that the inequity within the working class is structural rather than the result of worker differences. It also leads to fundamental questions about the adequacy of a development strategy for native people which is based upon educational expansion.

Application to the N.W.T.--While application and verification of the concept of educational *contradiction* in the N.W.T. is perhaps the major aim of this thesis we will briefly discuss here the utility of the concept of educational *correspondence* in understanding northern education. We saw in Chapter II how education was instituted in the North. It was instituted less out of a desire to "develop native people" and more as a reaction to pressures from a settler class. Given that the Government had to appear to be fair, this education was extended to the native people and it was then that education became adopted as a strategy in overcoming the poverty being faced by the natives.

In this context we saw fair-minded educators such as Moore attempting against all odds to institute some form of education for the native people which would make sense given their social and economic realities. Instead we saw the institutionalization of standardized education using Alberta curricula with minor attempts to adjust the content to make learning easier for the native children. This was the first case where educational reform suggestions did not correspond to the broader economic realities of the Canadian labour market into which the N.W.T. was dragged by the non-native residents. The reforms were ignored.

The result was predictably, widespread native failure and dropout as the schools became entrenched in each and every community in the North. Standardized schooling is structured such that the dominant culture is given advantage. The schools intruded into the northern communities not only branding natives as educational failures but inflicting a cultural hegemony at the same time.

Finally, again in 1970, we saw the Department of Education in the N.W.T. attempt to make reforms which would change the schools to help the native students and develop people better able to cope with their everyday realities and problems. But again the reforms were rejected in favor of standardized testing and an all-out effort to improve the "quality" of education. This was again clear evidence of the tendency for the predominant education system to correspond to the existing relations, and to reject reforms that threaten the relations.

The concept of educational contradiction is better understood with figures than with historical analysis. We saw in Chapter II a seeming contradiction in that native labour force participation had actually dropped in 1971 despite twenty years of universalized education. This was explained away by the observation that native people's educational stock had not increased enough to make a difference. We look then to 1981. Given our understanding of structured inequity through labour market segmentation, we expect that despite any increases in native labour force participation, native poverty will be constant. As wage employment increases, working natives who are poor will supplant the poverty caused by simple nonparticipation in wage labour. This will be due to their forced attachment to the unfavourable competitive market, and to their lack of mobility within preferred markets, especially the monopoly market. Both phenomena will occur despite educational attainments. This will result in a fundamental contradiction in education where native workers as a whole will be less rewarded both in terms of pay and conditions of work than their non-native counterparts even after keeping education constant. In the next chapter we set out research hypotheses to test some of these expectations.

CHAPTER IV

EDUCATION AND LABOUR MARKET SEGMENTATION IN THE N.W.T.: RESEARCH HYPOTHESES AND METHODOLOGY

In the previous chapter we saw how labour market segmentation research has revealed growing contradictions in education. We saw how it could be possible that similar work and education could yield different work rewards depending on sectoral location. We saw how groups such as native people could be confined to unfavourable markets despite their educational attainments. And finally, we saw how educational criteria for entry to markets could fluctuate, contrary to mainstream theory assertions that education and the workplace are matched with levels of skill and knowledge. These theoretically established possibilities, if proven, should have a profound effect upon our current understandings about the value of standardized education in promoting social and economic development among the poor.

In this chapter we focus upon three tasks. First, for research purposes, we identify and describe the relationship between the probable productive sectors in the N.W.T. economy. Second, we identify specific research hypotheses concerning the segmented markets and their effects upon education and native participation. Third, we describe the methodology used in operationalizing the hypotheses. The results of the data analysis will appear in the fifth and final chapter.

Productive Economic Sectors in the N.W.T.

For purposes of labour market analysis, four sectors are identified as composing the N.W.T. economy. These sectors are identified using Hodson's (1978) criteria of differentiated use of capital. The first three sectors are as identified and described by Hodson: the monopoly, competitive and state sectors. In addition, land-based economic activity is posited as composing a fourth sector for the N.W.T. This land-based activity, composed largely of hunting, trapping and fishing, differs from the other three sectors in that it is not based upon wage labour. Watkins (1977), Asch (1977) and Usher (1982) identify and treat this sector in the North as a mode of production unto itself.

As might be expected, most of those engaged in this fourth sector are native, and traditional knowledge and values figure largely in determining the relations of production of the sector. Usher (1982:24) describes the sector as being composed of internal relations based upon foraging, with rules of allocation which are determined by custom; and external relations much like those of merchant capitalist, who are not unlike farmers. He, as well as Watkins and Asch, deal with the sector, not as an aberration in modern society, but rather as a form of economic activity which has evolved from the traditional hunting and gathering activity.

The significance of this sector to the native people has been much debated in the last ten years. As described in Chapter II, native poverty has by and large been attributed to their being caught in a limbo, having lost traditional skills of self-sustenance and having as yet to gain the modern skills necessary for wage labour. The fact that native people no longer live "on the land," preferring instead to live in communities, and the fact that very few can be statistically identified as living off the avails of hunting and trapping, has led to the conclusion that what "remains" of the traditional activity is insignificant. Indeed Canada census of 1961 and 1981 reveal that the percentage of the N.W.T. labour force engaged in hunting and trapping decreased from 21.6% to 1.2%. Based upon observations of these kinds of figures, government policy and social science research have up to now, seldom recognized the potential of this sector in solving the social and economic problems confronting native people. The sector is more often dismissed as a native indulgence where it occurs and viewed as detrimental to any long run economic progress among the people.[11] It has been claimed by native organizations and the consultants working on their behalf that the extent to which land is used is far greater than census data can reveal (Indian Brotherhood of the N.W.T., 1976; Freeman, 1976; Rushforth, 1977). The claim is made that many native people engage in full- or part-time wage labour in order to supplement their land use activities, not the other way around. In the census, these people are registered as belonging to the wage-labour markets rather than to the land-based market.

The dollar value of the land-based activities cannot be so easily dismissed. Rushforth's (1977:42-43) study showed for example that the land produced an approximate per capita income value of $580-$700 in the Bear Lake Region of the N.W.T. As much as 42% of the food requirements of these people were being met through hunting, fishing and trapping.

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[11] See for example Hobarts on behalf of Canadian Arctic Gas in their petition before the Berger Inquiry (Mackenzie Valley Pipeline Inquiry Vol. 157:24086-24119).

The manner in which native people in the most recent past have engaged in land activities leads to a common understanding that it is simply recreational activity. It is suggested here that native land-based activity is more akin to the alternate role described in the previous chapter. The activity as it exists yields little in the way of money except in commercialized fishing and trading. Consequently there is a need to engage in the wage-labour market if only to obtain money to support land activities such as buying gas and skidoos and ammunition. On the other hand, for those natives who engage in the wage economy by preference, there is the instability of their employment which leads to their forced dependency on the land between jobs. This dependency would be greater if as anticipated, native people are found more attached to an unstable competitive labour market. For the high proportion of labour force age native adults who are not labour force participants (in 1971, more than 60% of the native adults) there remains the unofficial recognition of the extent to which the land supplements transfer payments or indeed the extent to which the transfer payments support land activities. There is no doubt but that the social cost of having such a low labour force participation rate would be much greater were it not for unreported or unrecognized land activity.

In this context it is evident that the land provides a precarious support at best. What is important to understand is that the sector is not inherently outmoded as a means of economic sustenance. It is interpreted that way and is made that way with state and industry decisions as we shall see below. Given another set of priorities, indeed a different set of relations of production, the sector has potential in becoming vibrant and fully self-supporting and as such would employ native people and their skills giving them the edge rather than the handicap as is the case in the present wage-based economy.

The relationship between the four sectors in the Territoral economy can be seen to follow more or less the sector relationships described in the segmentation literature discussed in the previous chapter. Watkins (1977), in his analysis of the present Territorial economy, identified the native economy and the mineral extraction industries as the two major sectors and focused upon the conflicting relationship between the two. Insofar as the mineral extraction industries well represent monopoly capital, and insofar as monopoly capital in the North is composed almost singularly of these extraction industries, Watkin's work is particularly useful to this study.

In describing the relationship between the nonrenewable resource industries and the land-based economy, he brings to our attention first the need for the mineral industries to have a "clear right to take minerals from under the land and to transport minerals over the land" (1977:88). The Canadian Government has assumed the land to be crown land, as described in Chapter II, and has given the industries the "right" they require but this right has been challenged by aboriginal claims. It is not simply continued traditional use of the land which exploration and extraction activities threaten, it is the claim by aboriginal groups that the land is not properly Government land. The conflict over land represents the inherent conflict between the land-based sector and the monopoly sector in the N.W.T.

This conflicting relationship would suggest that the monopoly sector would not eaily engage in any activity which would support the native economy. In fact, in its natural state, the monopoly sector works to undermine the land-based sector. Says Watkins (1977:94):

> The economy is a two-sector economy with the mineral sector added to the preexisting one-sector economy [hunting and trapping].... The operation of the "new" sector works...to underdevelop the "old" sector. The economic surplus generated by the "new" sector is used to generate further activity in the "new" sector or is drained out of the region.

The native organizations have proved to be the only effective lobby against the monopoly sector decisions which blatantly conflict with land-based activities.[12] It remains to be seen how effective this lobby will be in the long run. Settlement of land claims as presented will surely represent the optimal control over the monopoly sector by native people who tend to represent the land-based sector.

In addition to this basic conflict over land, there is yet another area of conflict. It exists between the land-based sector and wage-labour sectors in general. Berger (1977:122) summarized the aspects of the conflict:

> ...a regular scedule of work conflicts with a hunter's need to respond quickly to weather and animal movements; cash tends to flow to the men who are least committed to a life of hunting, fishing and trapping; and employment...may put a man at a great distance from his hunting and trapping.

Labour market segmentation theory leads us to understand that the three wage-based sectors are distinguishable in how and where they employ people. If this is so, the land-based sector would be adversely affected, or conversely more naturally accommodated by the different wage-based sectors.

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[12] See for example Usher's (1973:29-30) report on COPE activities with regard to the Banks Island Inuvialuit in their conflict with seismic operations.

It is possible to envisage a situation where native people are allowed, not forced, to engage in land activities due less to the instability of the market to which they are attached and more to its flexibility. The preferable way to engage in the land would be to have a stable wage-based job which allows participation in land activities in peak harvest seasons or at acceptable intervals without jeopardizing one's seniority or position in the wage-based sector. Given this as the ideal situation, the state would seem to be the most likely candidate to allow that kind of flexibility though it does not at present in any structured way. State employment, scattered as it is across the North, makes hunting grounds accessible. The monopoly sector it would seem, would be least flexible in accommodating such employment due to the supposed high cost of training and high productivity ratios.

Recently however, native organizations such as the Inuit Development Corporation have negotiated with the petroleum and mining industries on behalf of native workers to install rotation work schedules which enable land activities (Hobarts, 1976; Barrett, 1973; Boreal Planning Committee, 1981). Significantly such productive bargaining has occurred only in the monopoy sector. The reason is of course that aboriginal title cannot be discounted as yet and it would be most politic for the monopoly firms to cooperate at this time. If as Hodson suggests, the state usually follows on the heels of the monopoly sector's established working conditions and rewards, one can expect the state to follow shortly with a comparable package for its workers. The competitive sector is neither in a position to offer such bargains nor is it held ransom to bargain. The instability of the market will undoubtdly continue to support/require land activities until such time that the structural differences between the competitive and monopoly sectors are reduced or eliminated.

The relationship between the monopoly and the competitive sector is touched upon by Watkins (1977:90-91) when he deals with the notion of linkages. He refers to the "local businesses" (which by nature of their size and product can be assumed to be a part of the competitive sector) as being the beneficiaries of the supposed linkages. He argues that the linkages under conditions of staples production are not great in that the staples are exported in an unprocessed form while the capital and consumer needs are imported. Regardless, what local businesses do exist in the North are and have been very keen on the prospect of even greater activity in mineral exploration and extraction (Berger, 1977:131-133; MVPI, Aug. 23, 1976, Vol. 175:27227-27252). On the other hand, the monopoly sector has encouraged the optimism of the competitive sector, perhaps viewing the competitive local entrepreneurs as providing the regional support so badly needed by a foreign presence.[13]

The state sector can be seen to function in the way theorized by Hodson (1978:431). As described in Chapter II, if the Federal Government was intitially amiss in not recognizing that its purpose was to absorb the cost of services such as transportation and communication into and out of land being mined by private industries, it soon corrected its ways. On the other hand, as native rights groups became more vocal and organized throughout the 1970's, the Federal Government bowed to the pressure of at least appearing to be fair.

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[13] See for example Van Ginkel's study of the effects of the hydrocarbon industries on the communities of the Mackenzie Valley (1975). The study was done for Canadian Arctic Gas Ltd.

Much of the evidence regarding the Federal Government decisions concerning the northern economy reveals a government bias towards the monopoly sector. Dosman (1975) for example, gave instance after instance of government collaboration with the mineral industry firms and consortiums, collaboration which negatively affected the Canadian coffers as well as the physical environment.

> The Minister of the Department of Indian Affairs had achieved a remarkable set of conflicting assignments: as Minister he had committed himself to native rights and environmental protection; as Minister responsible for Panarctic Oils Ltd. he participated in their violation. (Dosman, 1975:110)

One can accept the primacy of the Canadian electorate over the Territorial economic needs. It is more difficult to accept the power that the monopoly firms have had and continue to have over the Federal Government. This power and influence is given by Hodson (1978) as one of several indicators of monopoly capital.

It is much more difficult to ascertain in whose interests the Territorial Government operates. Recent history has revealed that the political position of this government cannot be taken as static, and yet identification of its political position is made difficult because the legislature does not yet operate according to a party system. The Assembly sitting prior to the 1979 Territorial elections took a stance for the monopoly sector and against the land-based sector which was quite undisguised. In reaction to the COPE land claims petition, the Assembly passed motions asking for "corrections" in the petition which would reflect the primacy of the Territorial Government over the native organization (Gov. N.W.T. Annual Report 1978:124). In 1979, Commissioner Hodgson, with the support of the Assembly, condemned the native organizations for "holding up" land claims negotiations thus preventing the initiation of major mega-projects along the Mackenzie corridor (Gov. N.W.T. Annual Report 1979:53). As well, the Assembly took the position on Territorial constitutional development that as much power as possible had to be concentrated in the Territorial Government as opposed to political responsibility being given to native groups through land claims.

The newly elected assembly of 1979 made immediate attempts to break itself from the political positions of the past Assembly. A motion was passed stating that the Ninth Assembly "did not support and would not be bound by the principles related to the settlement of native land claims which had been established by the Eighth Assembly" (Legislative Assembly of the N.W.T., Aug. 1983:8). The Assembly went on to assert that they would consider Territorial constitutional development only after aboriginal claims had been resolved. They expressed concerns too about the terms and conditions under which monopoly sector activities had previously been accepted. They pointed to the Norman Wells Pipeline Project and voiced concerns that the aboriginal claims in the area had yet to be resolved and that the basis for revenue sharing was inadequate (Gov. N.W.T. Annual Report 1980:58). Here was an Assembly which clearly acknowledged the importance and the validity of the land-based economic sector, not necessarily to the exclusion of the monopoly sector, but certainly with due concern for the exercise of control over the latter.

It is clear that the racial make-up of the Assembly is not the factor which determines its political position. The Eighth and Ninth

Assemblies were almost identical in their racial make-up.[14] There is no obvious method for determining the political stance that an Assembly will take. It is certain however, that if the state is going to work on behalf of all sectors (in preference to working on behalf of simply the monopoly sector), it will be the Territorial body before it will ever be the Federal one. Most importantly, it must be kept in mind that the Federal Government has ultimate control because of the Territorial status.

In summation, it can be said that the monopoly, competitive, land-based, and state sectors of the N.W.T. dialectically interact with much positioning and flexing on the part of each of the sectors. Inasmuch as there is a "natural"tendency for the monopoly sector to dominate the others, and inasmuch as the land-based sector faces extreme threats to its continued existence in this natural order, the relative strengths and the extent to which sectors are controlled depend very much on crucial decision making in the political arena.

The N.W.T. Labour Force in Four Sectors of Production: Hypotheses

Labour market segmentation theory has led us to expect native poverty to increasingly have its source in the structures of the various labour markets. In final analysis, we must be concerned with whether or not differential work rewards do exist and whether native people are concentrated in the unpreferred markets. But if those differences are indeed found, the solution to the problem is very much dependent upon how those sectoral differences and native attachments are explained. In this thesis we do not concern ourselves with whether there are work reward differences. For the sake of limiting the research boundaries, we take as given or leave for further research, establishment of the fact that there are sectoral differences in working conditions and wages. We take as given as well, that native people in the land-based sector are underrepresented in the census data and that there is probably much overlap between those participating in the wage-based sectors and the land-based sectors.

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[14] The Eight Assembly consisted of nine native to six non-native members. The Ninth consisted of thirteen native to eight non-native.

What we do concern ourselves with here is whether or not native people are in fact beginning to be more and more concentrated in the unpreferred labour market and how this concentration may produce evidence of contradictions in education. Before embarking upon our major research task, we explore the possibility that the regional markets will "look" different from the national markets. Differences, if found, will have implications for the N.W.T. labour force at large.

Regional Location and Sectoral Make-up

The economy of the N.W.T. is not simply a scaled down replica of the national economy. According to such theorists as Watkins (1977), Asch (1977) and Usher (1973,1982) the northern economy is a hinterland economy which is dependent upon the production and exportation of staples. This activity is controlled in large part by capital which is external to the N.W.T. and in large part to Canada itself. It is first and foremost, monopoly capital but its domination of the regional economy does not mean that the regional economy is therefore largely composed of monopoly sector employment. As discussed earlier in this chapter, the monopoly sector is seen to spawn a competitive sector which is seen as the large employer.

Even to the extent that the monopoly sector exists, one does not expect it to have the same occupational profile as the monopoly sector described in the literature referring to national samples. It is known that the vast primary occupational cell associated with the monopoly sector is not situated in the hinterland. This fact will skew the labour market in this instance to look more like the competitive sector labour market.

It will not be simply the absence of primary sector occupations but also the presence of a larger secondary occupations cell which will make the hinterland monopoly look very much like the competitive sector occupationally. Segmentation research leads us to believe that the monopoly sector usually subcontracts secondary type activities to the competitive sector. In the North, the nature of the monopoly activity, largely high-tech offshore drilling and high-tech oil recovery under extreme climactic conditions has led to relatively self-contained activities. Consequently, even such secondary occupations as janitorial work is under the supervision and payroll of the major oil companies. The end result is that in the absence of a fully developed monopoly sector, there are left fewer opportunities for primary occupation employment for the Territorial labour force. This is of course precisely one of the arguments of the dependency theorists such as Watkins who warn of the negative effects of hinterland economies on regional development.

If indeed, the monopoly sector is found to be similar in make-up to the competitive sector, the theoretical usefulness of sectoral analysis is not lost. In fact it provides a rare opportunity to compare and contrast the work rewards and conditions of two sectors operating with different forms of capital, even though the sectors are very similar in occupational make-up. Data limitations in this thesis prevent it but substantial differences would likely be found if researched.

Given the above, the following research hypotheses can be set forth:

1. *Compared to the National monopoly sector, the regional sector is composed of a smaller proportion of the higher occupations (managerial and professional) and a larger proportion of the lower occupations (semi- and low-skilled).*
2. *In the N.W.T. the monopoly sector and the competitive sector will look very similar in terms of occupational make-up.*

Segmentation and Contradictions in Education

Though we have set up a four-sector economy in the N.W.T. there will be noted here a tendency toward dualization. The monopoly and competitive sectors will be constantly compared and contrasted in the initial stages because these sectors embody the essence of the segmentation argument. Such a technique poses the hazard of compromising the theoretical importance of the other two sectors. It is hoped that as research into the Territorial economy progresses, these sectors will receive the focused attention they deserve.

In the previous chapter, education was seen to play a supportive role for segmented markets. Under circumstances where educated workers were in short supply, the monopoly sector was seen as having the more educated labour force because that sector could afford higher wages than the competitive sector. Under conditions where the available labour force was seen to be inadequate, the monopoly and state sector both could be seen to import what was considered appropriate labour in preference to using the available supply. Nonetheless, the educational attainments of those employed in the monopoly sector under such circumstances would likely be lower than if more educated workers were available.

If the native labour force is relatively less educated, it is expected that native labour will be effectively shut out of the monopoly sector. Most native labour would fall into the state sector which has a mandate to hire native labour, and into the competitive sector which would not have the resources to import a more educated labour force.

The resultant segmentation along educational lines would not be without attendant contradictions. One of the contradictions would be that similar occupational roles in the competitive and monopoly sector would be held by workers with different educational attainments. Thus we would expect native people, by virtue of their limited education, forced into the competitive labour market but being able at the same time to perform many of the same occupational tasks as their monopoly sector counterparts but with less education and, of course, less in the way of work rewards. This situation in turn would create sectorally differentiated patterns of group mobility. Because of the less stringent educational requirements in the competitive sector, native people would be more represented in the top occupational categories than in the monopoly sector. Conversely, in the monopoly sector, a proportionally small native component will be found in the top occupations. It is expected that the state sector will have educational requirements which are at least as high as the monopoly sector but that these requirements will not be uniformly imposed on the native and non-native labour forces. Consequently, there will be a higher proportion of native people in both the high and low occupations in this sector than in the monopoly sector.

The following hypotheses can be derived from the above.

Under conditions where educated workers are in short supply.

1. *The educational profiles of the monopoly and state sectors will be higher than that of the competitive sector, keeping occupation constant.*
2. *Native people will be overrepresented in the competitive sector and underrepresented in the monopoly sector.*
3. *The group mobility patterns of the native labour force will vary by sector with the competitive and state sectors allowing the greatest group mobility for native people and the monopoly sector the least.*

Mainstream educational theory has it that the skill needs of a particular kind of employment are matched to the ability to perform skills via educational attainment. However, the segmentation perspective leads us to understand that the educational levels required by a sector at any one point in time will have more to do with the supply of educated than with actual skill requirements. Many situations can affect this supply. Economic expansion and recession will have an effect as will worker control over the supply through union membership. Also, geographic location can be seen to affect availability of workers. Most importantly, educational inflation has irreversibly increased the supply of educated workers and this will have a constant effect relative to the other mentioned factors which change with time and circumstance.

Regardless of these fluctuations in the educational criteria, the segments remain constant relative to one another. Whatever the competitive sector may be able to capture in the way of educated manpower, work rewards will remain low relative to the monopoly sector. Thus during economic expansion, a native worker with relatively low education may be hired into the monopoly sector and he may be able to earn very much more with better working conditions than he had when employed at a local retail outlet. Conversely, during recession, this same worker may go unemployed as a more educated worker takes not only his monopoly sector job but also the job in the retail store.

The N.W.T. offers a unique opportunity to study labour markets under both conditions in a relatively short period of time. In 1971, educated non-native people were in short supply in the North. By 1981, the North had become that much more accessible, the number of non-native settlers had increased, and most importantly Canada was beginning to feel the effects of an economic recession creating high unemployment in the South. These factors combined to create a larger supply of accessible non-natives with high education relative to the native labour force. How would these factors affect the native labour force which too had presumably increased its educational stock?

The point at which the monopoly sector is forced to choose from employees of similar educational qualifications, ascriptive factors are seen to come into play, factors such as gender, race, immigrant status and age. Consequently, we should see no greater participation of native people in the monopoly sector due to increased education except perhaps as a consequence of political pressures put upon the sector to hire native.

Based upon the above discussion, and following upon the four earlier hypotheses, these two hypotheses are constructed:

4. *Between 1971 and 1981, there will be a significant increase in the educational profiles of the labour force at large but the relative sizes of the sectors, particularly the competitive and monopoly sectors, will have remained the same.*
5. *Between 1971 and 1981, the majority of native workers will still have educational attainments lower than the average non-native educational attainments. However, there will be a significant increase in the proportion of natives who match or are higher than the average non-native attainment. This increased education will have made little difference in the distribution of the native people across and within sectors except in the state sector.*

Data Source and Methodology

The data used in the evaluation of the hypotheses outlined above is derived from the 1971 and 1981 Census of Population and Housing from Statistics Canada for the N.W.T. In order to operationalize the hypotheses, the major task was to construct industrial sectors to approximate the theorized productive sectors and the occupational labour markets within using preexisting data categories from Statistics Canada. The methodology used in so doing is described below. Also, the independent variables, the N.W.T. labour force, ethnicity and education are identified and the procedures used in their operationalization are described. Special tabulations were requested from Statistics Canada for the N.W.T. labour force based upon the above outlined constructs.

Productive Sectors

The Canadian census was chosen as the source for data in the analysis of the effects of segmentation of the N.W.T. economy. The 1971 and 1981 Population and Housing Census collected data from every household in the N.W.T. In all other provinces, the questionnaire was completed by only one in every five households. The questionnaire is more commonly referred to as the "Long Form."

Published statistical data is not in a form which lends itself to observing the effects of economic segmentation. The best one might do would be to analyze disaggregated industrial categories. For purposes of a more accurate analysis, the 1971 Canada Census Industrial Code was used to construct categories which would approximate the productive sectors identified earlier.

For the most part, the classification of industries was based upon the taxonomy of Boyd and Humphreys (1979).[15] Their taxonomy used concentration[16] indices to categorize industries into just two sectors - the core and periphery - but it has the advantage of having worked with Canadian industries and Canadian indices of concentration. In their study, state sector employment was categorized as core industry. The

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[15] See Appendix A.

[16] Concentration indicies refer to the absolute size of capital. Hodson (1978:431) also uses centralization indices which refer to the relative size of capital.

adaptation of the Boyd and Humphreys classification of industries was viewed as adequate for the purposes of this research in that the intention was not to empirically confirm or deny segmentation but rather to explore the possibility of segmentation and its implications upon the Territorial indigenes. It is left to succeeding studies to rigorously develop the segments and test their explanatory validity.

The adaptation of the dual economy classification of Boyd and Humphreys into a four-sector economy was made simple by virtue of the lack of industrial diversity in the N.W.T. Research into segmentation at a national level must deal with a full spectrum of economic activities and the concomitant problem of determining the cutoff points between industries to mark possible segments, but in the N.W.T. the lack of industrial diversity alleviated the problem of classification somewhat. The monopoly-competitive distinction in industry is very obvious with few industries occupying the grey areas identified in other research.

Two industries tend to dominate the wage-based economy in the N.W.T. which are not state operated: the mineral and petroleum industry, and the retail industry. As it happens each of these industries is viewed in the research as the locus of the monopoly and competitive sectors respectively (Hodson, 1978:433).

The only ambiguous industry posed by the Territorial economy was the construction industry which comes second only to the retail industry in the N.W.T. in terms of the number of firms and people employed (Government of N.W.T., 1984; N.W.T. Construction Association, 1984). Boyd and Humphreys assigned the industry to the peripheral (competitive) sector but other researchers have systematically assigned it to the monopoly sector (Zucker and Rosenstein, 1981).

An analysis of the construction firms listed in the N.W.T. Business Director for 1984 (Gov. N.W.T., 1984) reveals that approximately 70% of the construction firms hired on the average three full-time and three part-time or seasonal employees. Obviously, the majority of the construction firms are in the competitive market. On the other hand, five per cent of the firms listed hired approximately 40% of the seasonal and 15% of the full-time labour in a given year. Hodson observed a similar pattern in his analysis of construction in his national survey:

> Construction is dominated by relatively small capital, which at the national level appears to be decentralized, yet regionally, construction firms often hold virtually complete monopolies. (1978:443)

His solution was to consider construction as a separate category even though it tended to "clutter" his analysis.

Theoretically, construction workers can be understood to be monopoly sector workers by virtue of their trade union affiliations. This is a particularly important factor in the N.W.T. Construction projects up to 1981 had been done by largely nonunion firms. Unionized firms become present in the North with the onset of pipeline and gas plant construction, or in other words the mega-projects. For the present study therefore, we can conclude that the construction industry probably belongs with the competitive sector but this will not necessarily be the case in future studies pertaining to northern construction.

There was an additional methodological problem posed by the fact that a portion of the construction activity in the North is carried on by the state. One source (Gov. of Canada DIAND, 1977:79) reveals that in 1969-70, 32% of labour income paid in the construction industry came from the Federal and Territorial Department of Public Works. Census Data as requested will not reveal the extent to which the state employed construction workers but this fact must be kept in mind.

The problem of aggregated figures for state and private labour force is also evident in the industrial category "transportation, communications and utilities." According to the information referred to earlier (DIAND, 1977:79), 39% of the labour income paid out in this industrial category originated from crown corporations and Federal Departments. The problem this poses is not as serious as the one in the construction industry. Boyd and Humphreys assigned this industry to the core (monopoly) sector because of its capital concentration. If it is not state sector it is monopoly sector activity. There is no question that it is not competitive sector activity. Because there is no way to disaggregate the state from the private labour force in this industry, the inclination is to aggregate the industry with the monopoly sector. This is so for two reasons: first, less than half of the industry is not privately operated and that proportion has probably declined since 1971 due to a movement toward privitization; second, it is not properly state employment as much as it is crown employment. Crown employment is a little more distanced from the regulatory influences of the state than employment directly under the control of the state. Debate as to the legitimacy of aggregating the group with the monopoly sector must deal with the differences between the crown and state as employers. We bypass this debate in this thesis with acknowledgement that further research could necessitate disaggregation.

The land-based sector was operationalized using hunting/fishing/

trapping activities as its core. Lumber and agricultural activity was included as well, not because it represents the economic patterns of that sector but because it is viewed by native groups as having the potential to serve what is more properly defined here as the land-based sector (Berger, 1977:185-191). The agricultural and lumber industry today constitutes an insignificant portion of the total economy. The state sector is represented by activities listed under public administration and defence, education and related services, and health and welfare.

The monopoly sector is represented with activities from mines, quarries and oil wells, and from finance, real estate and insurance. Boyd and Humphreys disaggregated manufacturing and classified certain of its industries such as mineral, oil and metal processing, petroleum products, etc. into the core sector and classified others such as pulp and paper making, wood machining, etc. into the periphery. Because of the general lack of any kind of manufacturing in the N.W.T., with much of the extent to which it exists being peripheral (based upon Boyd and Humphreys classification), the manufacturing industries were left aggregated and assigned to the competitive sector. The competitive sector was constructed to include all other major industrial categories not thus far listed: manufacturing, trade, religious organizations, amusement and recreation services, services to business management, personal services, accommodation and food services and miscellaneous services. A final category was added to encompass all those industries which could not be classified or which were not stated by respondents.[17]

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[17] Appendix B shows the final categories cross referenced with the Industrial Classification Codes.

Occupation

Following Hodson, occupational categories are constructed to supplement the analysis of the effect of productive sectors upon labour market conditions. The categories were constructed to approximate the occupational labour markets described by Gordon et al. (1982) and Edwards (1979). It is hoped that the categories will provide some indication of sectoral differences in working conditions as determined by occupation. It will also allow sectoral comparisons of educational attainments while holding occupation constant. Finally, the sectors can be compared in terms of native group mobility.

The work done by Pineo, Porter and McRoberts (1977) was useful in constructing occupational categories to suit the research needs of this study. In their work, the occupational groups of the Canada Census Standard Occupational Classification Code are disaggregated and reorganized into groups which are more workable in stratification studies. They identify fourteen categories ranging from self-employed professionals and employed professionals at the top to unskilled labourers at the bottom.

For purposes of this research, the fourteen categories of Pineo et al. have been aggregated to form five major occupational groups. The first group consists of managerial, professional and technical workers; the second group consists of supervisors, foremen, skilled clerical and sales persons, and skilled craftsmen and tradesmen; the third, of semi-skilled workers; the fourth of unskilled workers; and the fifth of "workers" in farming, hunting, trapping and forestry.[18] The last group was created by extracting land-based activity from the unskilled categories constructed by Pineo et al. This disaggregation is necessary to remain consistent with the notion presented previously that land-based activities are low in financial rewards, not due to inherent low status, but due to the lack of state recognition and support. The result in terms of data will be that the land-based productive sector will by and large remain occupationally uncategorized.

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[18] See Appendix C.

A strict comparison of national and Territorial sectoral samples is impossible because tabulations conforming to the sectoral categories were not requested for the national economy. The comparison of sectors (national versus Territorial) is based therefore on the "mines, quarries and oilwells" industry which is the bulk of the Territorial monopoly sector. Here the occupational group consisting of managers, professionals and technical people are compared for the two populations. This occupational group as a proportion of the total labour force in that industry should give a rough indication of the impact of hinterland location upon sectoral make-up.

The N.W.T. Labour Force

The population of interest is the labour force in the N.W.T.: all those engaged in some form of labour in the N.W.T., be it for wages or for exchange or simple hunting and gathering. We are interested in those who are employed either full- or part-time as well as those who are not employed. Census data limitations however, prevent analysis of this full range of workers. By census definition, the labour force consists of all people age fifteen or over who were unemployed or employed and resident in the N.W.T. at the time of census taking. The census does not include those persons who have never worked for wages, those who had not worked for wages one year prior to census taking, and those who were unemployed but had not looked for work in the week (4 weeks in 1981) prior to census taking. The census does not capture the nonresidents of the N.W.T. who find employment in the N.W.T. and shuttle back and forth to their permanent residences outside the Territories. Nor does the census include those participants in the land-based sector who are fully or part-time employed in other sectors.

Obviously, analysis of the native labour force in terms of sectoral attachment is almost valueless unless this population comprises a significant proportion of the native population as a whole. To determine this proportion, the labour force participant rate for the native and non-native groups can be calculated using data available from the Government N.W.T. Bureau of Statistics. Though the unemployed (those who worked in year of census and who looked for work in one to four weeks prior to census taking) are included in the labour force data, they are not categorized as to sectoral or occupational attachment. Therefore, in much of the analysis of the effects of segmentation, the unemployed are not included.

The fact of nonresident employment and the extent of the employment in the N.W.T. is theorized to have an effect upon native labour participation and yet data on this kind of employment is not available in the census data. Requests for such information from the Government of the N.W.T. and searches through public documents and periodicals were unfruitful. To obtain some indication of the extent of this type of employment, questionnaires were sent to ten of the largest employers in the mining and petroleum industry in the N.W.T. To ensure response, information requested was kept minimal. Seven of the ten firms responded.[19]

Analysis of the characteristics of those participating in the land-based sector, beyond those captured in the census data, would have enhanced this research immensely. If those participating in this sector in a peripheral manner, on weekends, seasonally, between jobs, etc., could somehow be identified and if their educational attainments could be obtained, it might substantiate this researcher's suspicion that this sector is vastly underrated as a refuge to many of today's educated natives. Where in the past this type of activity was understood as an alternative to wage employment by the uneducated, research would in all probability prove that this was indeed an adequate way of understanding this sector and the role of education. We leave to further research this kind of study, hoping that its omission here is not interpreted as an indication of its unimportance to the topic.

Ethnicity

Is native poverty due to their confinement to the competitive sector regardless of their education? Do the sectors differ in the mobility they offer to native people (keeping education constant)? In other words, are race/culture and the other things related to it more important in determining success or poverty in the given labour markets than education? It is likely true that the segmented and unequal markets would exist even if the labour force were racially and culturally homogeneous. It is not suggested that race or even education

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[19] See Appendix D for the questionnaire and results.

are the *cause* of the segmentation but that the segmentations tend to use education and increasingly, race/culture as a means of allocating members of the labour force at present. Ethnicity is not an important variable in understanding segmentation but it is important if there is a desire to understand inequity among ethnic groups.

Operationalization of ethnic groups in the N.W.T. labour force is problematic insofar as we wish to do a longitudinal analysis comparing 1971 and 1981 data. The first problem arises because we would like, for the purposes of our research, for "native" to denote Inuit, Indian (both status and nonstatus) and Metis. Unfortunately, the 1971 census did not specifically identify the Metis, choosing instead to aggregate Metis respondents in the "Others" category. They were identified in the 1981 census however. Another problem arose with a change in census definitions of ethnicity. In 1971, ethnicity was based upon a paternal ancestry criteria but this was dropped in 1981 such that respondents could identify their ethnicity based upon their matrilineal or patrilineal ancestry. In our study, one would expect larger numbers responding that they were Inuit and Metis in 1981 than did in 1971. The Indian group are by definition patrilineally defined so they would not pose a problem.

It is contended that neither problem described above seriously jeopardizes a valid comparison of native populations of 1971 and 1981. In the first case, it is argued that the 1971 population figures for Indian include a good portion of the Metis. The 1971 question form for ethnicity would have required the Metis respondent to write the word

"Metis" in the "Other" category. Those who did were indeed included in the "Other" population. However, the figures would suggest that many more checked themselves off as nonband Indians. Nonband Indians, particularly in the N.W.T. would be very few in number.[20] Any figure for the Indian population of 1971 would theoretically be mostly band Indian. The Indian population of 1971 should approximate the Indian population of 1981 (status plus nonstatus) net of natural increase in population. The net increase in the Indian population so computed is 430 persons,[21] a birth rate of approximately six per thousand per year, which is highly unlikely considering the birth rate for the N.W.T. during the same period averaged 23.4 per thousand per year (Gov. Canada, Vital Statistics, 1971-1980). The most likely explanation for this would be that the 1971 Indian population figure is inflated with respondents who should not have indicated themselves as such. A source of such a problem may very well have been Metis respondents registering themselves as nonband Indians in preference to making a written response or in preference to checking themselves off as some other ethnic group such as English or French, etc. Using the natural increase rates of the N.W.T. as a whole during the ten year period, if the Indian population is projected from 1971, 9,050 people could be expected in the group. This is within 785 people of the census figure for the 1981 population of Indian (status and nonstatus) and Metis people.

Further to this argument, it is understood from communication with the Statistics Canada people that enumeration in the N.W.T. has followed for the last two major census periods (1971 and 1981), a pattern whereby the communities of Fort Smith, Yellowknife, Pine Point and Hay River are left to self-enumeration while all other communities are enumerated using face-to-face data gathering techniques. The majority of those who consider themselves Metis live in the self-enumerated communities according to the Native Peoples Profile from Statistics Canada for 1981. Self- enumeration would have lent itself to the suggested type of error.

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[20] From discussion with M. Assheton-Smith, Dept. Educational Foundations, University of Alberta.

[21] Statistics Canada, National Series, 1971 and 1981.

As for the Inuit, the definitional change has created somewhat of a problem as is made evident by a comparison of the Inuit population for 1971 and 1981. Projection of the 1971 census figure for Inuit, using the rate of natural increase for the N.W.T. as a whole yields a population figure which is approximately 6% short of the 1981 census figure. This could very well be due to more people being registered as Inuit in 1981 who were not in 1971 due to differences in definition (i.e., patrilineal versus either matrilineal or patrilineal). Importantly, all Inuit communities were enumerated face to face which would have recorded such differences more than if they were self-enumerated. Despite this discrepancy in population numbers, as long as the difference is known to be in the area of 6% and this is kept in mind, comparisons should be possible.[22]

Education

The research hypotheses listed previously reveal the need to determine absolute levels of educational attainments for the N.W.T. labour force in general and the ethnic groups in particular. It was felt that grade nine and below would well represent the least educated and further breakdowns were not necessary there. As discussed in the 1981 Census Dictionary (Statistics Canada, 1981) categorizing education at the high school level and beyond is difficult because of the need for a hierarchy of attainments. Does a trades certificate without high school enter before or after the high school diploma? How is a respondent with post secondary training in several areas registered? Simple years of schooling would not suffice for this study due to the theoretical usefulness of the concept of credential - the certificate of completion. To an extent, the research problem was solved by the constraints of the census. In 1971, only the highest year of secondary school attended was requested. The presence or absence of the high school diploma was not recorded. In 1981, it was recorded. This made longitudinal comparisons of certification impossible insofar as the greatest difference in native education should be in the area of high school certification.

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[22] See Appendix E for a listing of ethnic groups used in gathering data for custom tabulations from Statistics Canada.

Time comparisons of the vocationally trained was nonproblematic inasmuch as whether these respondents had high school or not could not be determined. The university trained labour force was not broken down into partially completed and degreed groups based on the assumption that this group among natives would be so small as to be insignificant. Appendix F will show the final educational groupings requested. For purposes of longitudinal analysis these were aggregated into four comparable groups as shown.

For purposes of comparability, between groups and over time, a method of obtaining educational scores of a group has been devised. Each educational category is given an ordinal value. "Grade 9 or less" is given a value of 1, "Some or all high school" is given a value of 2, "Trades" a value of 3, and "Some or all post secondary" a value of 4. These scores are multiplied by the percentage of the population of concern with that education. These products are then added to give an overall ordinal education score for that population.

The research hypotheses were evaluated using the custom tabulations requested by Statistics Canada based upon these variables.[23] The results of the analysis are presented in the following chapter.

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[23] Appendix G shows the final tabulation titles requested of Statistics Canada.

CHAPTER V

OBSERVATIONS AND CONCLUSION

In this chapter the results of the data analysis are presented. The findings are divided into two broad categories, those having to do with the effects of the hinterland economy upon sectoral make-up, and those pertaining to the effects of segmentation upon educational distribution. The latter set of observations includes the effects of these educational distributions upon native occupational and sectoral representation over time.

Regional Location and Sectoral Make-Up

1. *The regional monopoly sector in the N.W.T. will differ from the national sector in occupational make-up.*
2. *The N.W.T. monopoly and competitive sectors will look very much alike in terms of occupational make-up.*

In order to compare national and Territorial sectors, census data published in the *National Series* of Statistics Canada were used. There it was found that the regional sector does differ markedly in occupational make-up. The "mines, quarries and oil wells" industry of Canada and the N.W.T. were compared. Twenty-one percent of the industry at the national level was composed of managerial, administrative and professional occupations. In the N.W.T., only 13% of the industry was composed of that occupational category (Statistics Canada, National Series 92-923, 1981: Table 1). Similarly, comparing a low occupation category, in the national sample, 2% of the total industry was composed of service occupations. In the Territorial sample, 6% was composed of service occupations. If disaggregated secondary occupations were available, the figure is certain to be higher still.

Table 4 compares the occupational make-up of the three wage-based sectors. (Data for this and all succeeding tables were obtained from the custom tabulations provided by Statistics Canada). Compared to the state sector, the monopoly and competitive sectors are comparable in occupational make-up. Over time, the monopoly and competitive sectors have become more alike while the state sector has become even more distinct through growth of its top occupational cell. It will be noticed in the following analysis that the similarities of the monopoly and competitive sector are only in terms of occupational structure. Major differences exist in the way they perform in allocating education and race.

Segmentation and Contradiction in Education

Data Analysis for 1971

In the previous chapter, it was noted that the N.W.T. provides a unique opportunity to test for the effects of segmentation under differing conditions. Within a span of ten years, the North went from being a relatively uninhabited region to a region by 1981, where non-natives were actively seeking work in the North in the face of an economic recession in the South.

Table 4

Productive Sectors* of N.W.T. Labour Force** by Occupational Groups For 1971 and 1981

	Industrial Sectors								
	Monopoly			Competitive			State		
Occupational Groups	1971	1981	% Diff.	1971	1981	% Diff.	1971	1981	% Diff.
Management/ Professional/ Technical	14	18	+4	8	13	+5	38	45	+7
Skilled	36	32	-4	33	31	-2	20	20	-
Semi-Skilled/ Unskilled	46	45	-1	55	49	-6	37	30	-7
Other	4	5	+1	4	7	+3	5	5	-
Total %	100	100	0	100	100	0	100	100	0
Number	(2,270)	(4,640)		(2,395)	(5,135)		(3,560)	(7,060)	

* Does not include land-based sector and uncategorized industries.
** Does not include unemployed.

Source: Statistics Canada: Custom Tabulations from 1971 and 1981 Census Population and Housing Data.

Our set of hypotheses dealing with the expected distribution of educational attainments in a segmented market under conditions where educated manpower is relatively unavailable, and the net effect of this upon native labour force distributions are tested first using the 1971 data. Following these are the observations relating to the 1981 data where educational native labour force distributions are expected to be different due to the increased availability of non-native educated labour.

> *Keeping occupation constant, the educational profiles of the productive sectors in 1971 will vary with the monopoly and state sectors having higher educational profiles than the competitive sector.*

Observation of the 1971 ordinal education scores of the occupational groups across sectors reveals as hypothesized that sectors do differ in the educational attainments of their respective labour forces. Table 5 shows us that in all occupation groups, the competitive sector was the most tolerant of workers with grade nine or less education but at the same time had more post secondary educated workers in the top occupation cell than the monopoly sector had. Comparing the range of scores across occupations, the monopoly sector had the smallest range (.92) and the state sector had the largest range (1.45) indicating that in the monopoly sector, there was the least variation in education across all occupations. There, in all occupational groups high school education seemed the median attainment. The state sector is conspicuous with its high proportion of highly educated as well as lowest educated.

Table 5

N.W.T. Labour Force* Occupational Groups by Education** and Productive Sector*** for 1971

Occupation	Monopoly	Competitive	State
Managerial/ Professional/ Technical			
Grade 9 or less	12%	27%	8%
Some or all high school	31	18	18
Trade	11	5	6
Some or all post secondary	46	50	73
Total %	100	100	100
Number	(325)	(220)	(1,350)
Educational Score	2.91	3.78	3.44
Skilled			
Grade 9 or less	21%	37%	28%
Some or all high school	36	35	32
Trade	17	12	14
Some or all post secondary	26	16	26
Total %	100	100	100
Number	(825)	(775)	(720)
Educational Score	2.48	2.07	2.38
Semi-Skilled/Unskilled			
Grade 9 or less	36%	59%	43%
Some or all high school	43	29	32
Trade	7	5	8
Some or all post secondary	14	7	17
Total %	100	100	100
Number	(1,055)	(1,315)	(1,330)
Educational Score	1.99	1.60	1.99

* Unemployed not included.

** The educational scores are ordinally comparable, 4 being the largest obtainable score, 1 is the lowest. For an explanation of the method used in obtaining the score, see page 108.

*** Land-based and uncategorized occupations and industries not included.

Source: Statistics Canada: Custom Tabulations of 1971 Census of Population and Housing Data.

Table 6 shows that if education and occupation were strictly linear in their relationship, 82% of the native and 17% of the non-native labour forces should have been in the lowest occupational categories. In fact, 69% of the natives and 40% of the non-natives were in the semi-skilled and unskilled occupational cells as shown in Table 7, indicating that the native group did better than could be expected based on their educational attainments. This would suggest that the natives and non-natives were not evaluated by the same educational criteria for entry into occupations.

Disaggregation of the native and non-native labour forces within each sector reveals the fact that two different educational scales were used in distributing the native and non-native to occupations and to productive sectors. A diagrammatic view of education is produced in Figure 1 on page 119. From Table 8 on page 117, we see that there was a much lower educational level of entry for native people in all occupational cells across all sectors.

This situation can be explained by the fact that more educated native workers were simply nonexistent and yet manpower needs forced industries to use these workers. In choosing the workers, the state sector commanded the highest educated of the native workers, the monopoly sector commanded the next highest and the remainder fell into the competitive market. It is likely that if many other non-natives were available for work, because of their higher educational attainments, they would have entirely shut the natives out of the labour markets as their educational attainments were so low. As will be made evident later, the 1981 data shows that indeed the less educated native participants in the competitive sector were simply replaced with the

Table 6

Native and Non-Native N.W.T. Labour Force* by Education for 1971

Education	Native	Non-Native
Grade 9 or less	82%	17%
Some or all high school	14	40
Trades	3	10
Some or all post secondary	1	33
Total %	100	100
Number	(3,260)	(7,090)

* Unemployed, uncategorized and land-based economic activities not included.

Source: Statistics Canada: Custom Tabulations from 1971 Census of Population and Housing Data.

Table 7

Native and Non-Native N.W.T. Labour Force* by Occupation for 1971

Occupation	Native	Non-Native
Managerial/Professional/Technical	10%	28%
Skilled	21	32
Semi-Skilled/Unskilled	69	40
Total %	100	100
Number	(2,035)	(5,965)

* Unemployed, uncategorized and land-based economic activities not included.

Source: Statistics Canada: Custom Tabulations from 1975 Census of Population and Housing Data.

Table 8

Native and Non-Native N.W.T. Labour Force* Education** by Occupation*** and Productive Sector for 1971

Education	Monopoly	Competitive	State
	Top Occupations		
Native			
Grade 9 or less	75%	82%	63%
Some or all high school	25	18	19
Trade	0	0	7
Some or all post secondary	0	0	11
Total %	100	100	100
Number	(20)	(55)	(135)
Educational Score	1.25	1.18	1.66
Non-Native			
Grade 9 or less	8%	9%	2%
Some or all high school	31	18	12
Trade	12	6	6
Some or all post secondary	49	67	80
Total %	100	100	100
Number	(305)	(165)	(1,215)
Educational Score	3.02	3.31	3.64

Table 8 - continued

Native and Non-Native N.W.T. Labour Force* Education** by Occupation*** and Productive Sector for 1971

Education	Monopoly	Competitive	State
Low Occupations			
Native			
Grade 9 or less	76%	90%	85%
Some or all high school	16	9	9
Trade	8	2	3
Some or all post secondary	0	0	3
Total %	100	100	100
Number	(185)	(665)	(520)
Educational Score	1.32	1.14	1.24
Non-Native			
Grade 9 or less	28%	28%	17%
Some or all high school	48	50	47
Trade	7	8	11
Some or all post secondary	17	14	25
Total %	100	100	100
Number	(870)	(650)	(810)
Educational Score	2.13	2.08	2.44

* Labour Force does not include the unemployed.

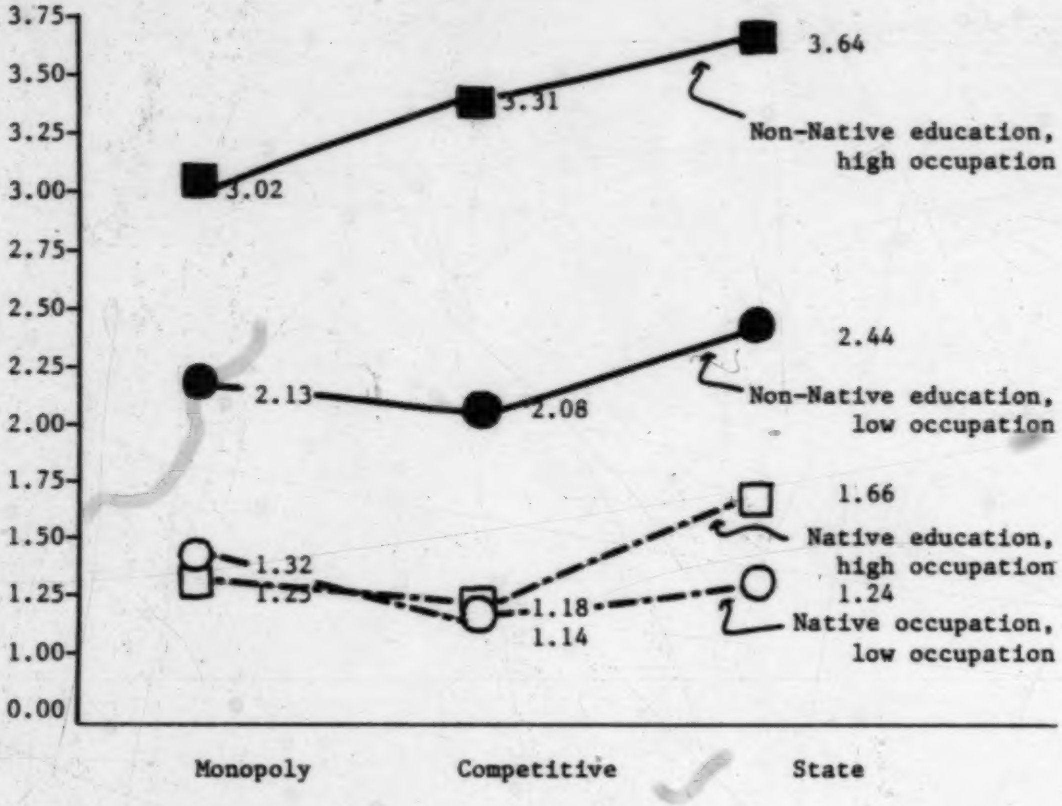
** Education Scores are ordinally comparable, 4 being the largest obtainable score and 1 the lowest. For explanation of method used in obtaining scores, see page 108.

*** Top occupations include managerial, professional and technical occupations. Low Occupations includes semi-skilled and unskilled occupations.

Source: Statistics Canada: Custom Tabulations of 1971 Census of Population and Housing Data.

Figure 1

Native and Non-Native N.W.T. Labour Force Education Scores for Occupational Groups Across Productive Sectors for 1971



Note: Squares indicate high occupation cells.
Circles indicate low occupation cells.
Solid lines indicate non-native labour force.
Dashed lines indicate native labour force.

Scores obtained from Tables 8 and 9, based on 1971 Statistics Canada Custom Tabulations.

more educated native and non-native labour force. This would indicate that a more educated labour force was availing itself to the competitive sector such that the sector no longer had to rely on the uneducated native labour force.

Figure 1 also shows that the non-native labour force, when disaggregated from the total labour force, does not follow the hypothesized educational pattern. The education of the high occupation cell in the competitive sector is higher than its counterpart in the monopoly sector.

This can be explained in two ways. First, Table 8 shows that where the competitive sector cell had 18% more personnel with some or all post secondary education, the monopoly sector had 13% more personnel with some or all high school training. This would suggest that though education was important for mobility into the top occupations of the monopoly sector, it was not sufficient. It will be recalled that the hinterland nature of the monopoly sector produced differences in its occupational make-up. There was seen to be a smaller proportion of high occupation jobs in the hinterland. It is not inconceivable that what remained in the professional/technical and management occupations were very field oriented. Field oriented management would be closely tied to mobility through proven experience rather than post secondary educational credentials.

The field oriented nature of the high occupation cell in the monopoly sector could be a second reason that in the N.W.T. at least, the high occupation cell in the competitive sector might be more attractive. It would more likely be located in a major center rather than a locational camp or village camps. If this were so, the competitive sector high occupations could begin to look attractive in comparison. It could thus demand and get higher educational credentials for entry.

In addition to the above discrepancy between monopoly and competitive sector education scores for non-natives, Figure 1 showed that in the monopoly sector, the native education score in the high occupation cell was actually lower than the low occupation cell. Table 8 shows that of those few natives who were in the monopoly sector, a small number were trades qualified and these managed to enter the sector in the low occupation cell. Those natives in the high occupation cell, like their non-native counterparts, probably worked their way up. Table 9 shows the difference in educational scores between natives and non-natives across sectors, keeping occupation constant. In both high and low occupation groups the difference was least in the monopoly sector. The competitive sector had the highest difference indicating the highest tolerance for low educated natives in high occupations. Regardless then, of the fact that native people were evaluated at a lower level than non-natives across all sectors, it can be seen that the monopoly sector was least inclined to relax educational barriers for entry of natives.

The native labour force is underrepresented in the monopoly sector and overrepresented in the competitive sector.

Figure 2 shows the proportional representation of native workers across sectors and compares them to the proportion of native people in the labour force at large. As expected, in 1971, native people were underrepresented in the monopoly sector, overrepresented in the competitive sector and slightly underrepresented in the state sector.

Table 9

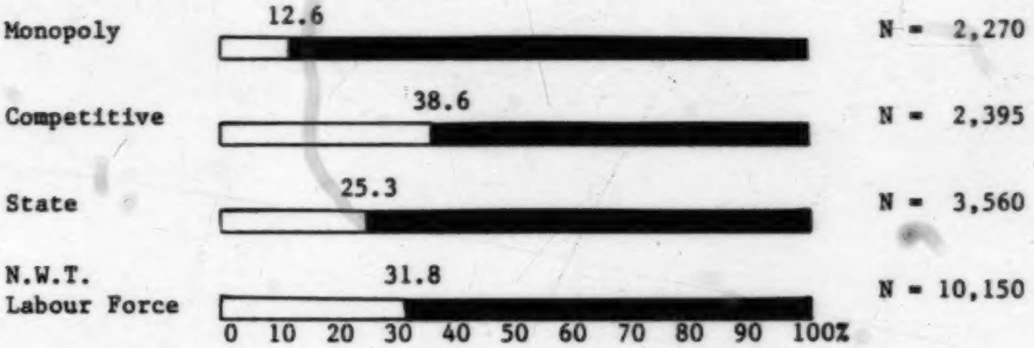
Differences Between the Native and Non-Native N.W.T. Labour Force Education Scores by Occupational Group by Productive Sector for 1971

	Monopoly		Competitive		State	
Occupation	Native	Non-Native	Native	Non-Native	Native	Non-Native
Top Occupation						
Education	1.25	3.02	1.18	3.31	1.66	3.64
Difference	-1.77		-2.13		-1.98	
Low Occupation						
Education	1.32	2.13	1.14	2.08	1.24	2.44
Difference	-.81		-.94		-1.2	

Data Source: Table 8

Figure 2

Proportions of Natives and Non-Natives in the N.W.T. Labour Force by Productive Sector for 1971



Note: Unshaded area indicates native labour force.
Shaded area indicates non-native labour force.
Unemployed in the labour force are not included.

Source: Statistics Canada: Custom Tabulations from 1971 Census of Population and Housing Data

It was hypothesized that such a distribution of the native labour force could be expected insofar as the productive sectors follows educational lines.

Overrepresentation of natives in the competitive sector did not produce sectoral concentration because the sectors were not equal in size. In 1971 the land-based sector captured about 5% of the labour force, the monopoly sector took 23%, the competitive sector took 24% and the state sector took about 34% with the rest in unclassified industries (Statistics Canada, Custom Tabulations, 1971). As Table 10 shows, native people distributed over the sectors in 1971 such that most (73%) divided evenly between the state and competitive sectors while 12% were located in the monopoly sector.

Proportional representation of native people in the high occupation cells will differ by sector.

It was hypothesized that the occupational mobility chances of native workers would be greater in the competitive sector than in the monopoly sector due to the lower educational expectations in the former. Figure 3 compares native proportions in the top occupation categories. It confirms the hypothesis. The state fell between the monopoly and competitive sectors in the proportion of natives hired. It is significant to note that despite the relatively high proportion of natives in the competitive sector, it represented only 20 natives compared to the 130 natives in the state sector who made up just 9.6% of the occupational cell. This indicates the importance of considering relative size of the sectors when discussing the effects of sectoral location.

Table 10

Native and Non-Native N.W.T. Labour Force* by Productive Sector** for 1971

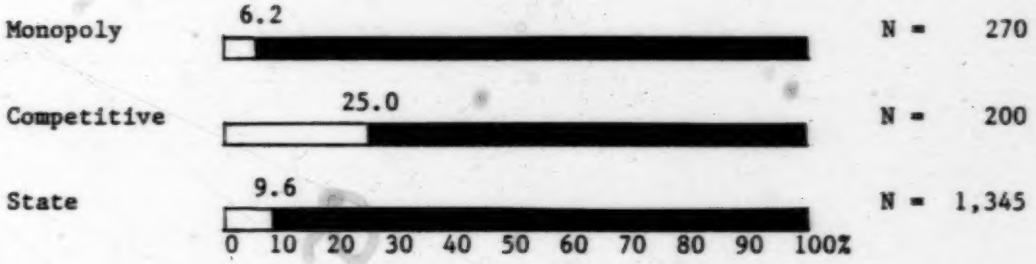
Industrial Sectors	Native	Non-Native
Land-Based	14.9%	1.5%
Monopoly	11.5	32.0
Competitive	37.3	23.7
State	36.3	42.8
Total %	100%	100%
Number	(2,480)	(6,205)

* Does not include unemployed.
** Uncategorized industries are not included.

Source: Statistics Canada: Custom Tabulations from 1971 Census of Population and Housing Data

Figure 3

Proportions of Natives and Non-Natives in the Top Occupations of the N.W.T. Labour Force by Productive Sector for 1971



Notes: Unshaded area indicates native labour force, shaded area indicates non-native labour force.
Unemployed in the labour force are not included.
Top Occupations include managerial, professional and technical occupations.

Source: Statistics Canada: Custom Tabulations from 1971 Census of Population and Housing Data

Data Analysis for 1981

By 1981, conditions in the North were different than in 1971. Increasing oil and mineral explorations had opened up the North considerably. This compounded with the beginnings of a national economic recession which left more and more unemployed in the South. The precarious job market increased the tendency for non-natives to look for or hold onto their jobs in the North. Then too there was the inexorable increases in educational attainment for the labour force at large which was, in some measure, fuelled by increases in native educational attainments. Given these conditions, it was hypothesized that the educational profiles of the segments would change with attendant effects upon the native labour force.

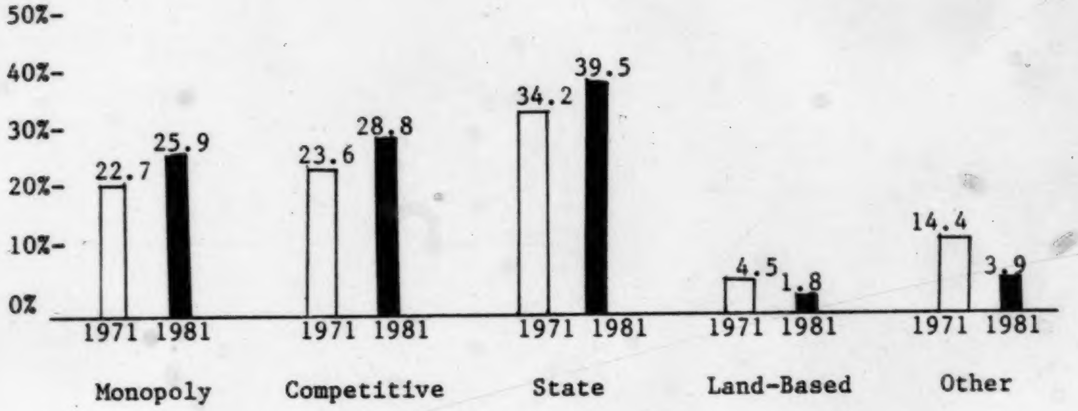
> *Between 1971 and 1981 there will be a significant increase in the education of the labour force of the N.W.T. Despite this, the relative sizes of the monopoly and competitive sectors will be the same.*

A basic contradiction pointed out by the critical education theorists was that workers have increased their educational stock over time but that this increase has not translated into a redistribution of wealth. To the extent that inequities among workers is rooted in a segmented labour market, it was theorized that a lack of change in the distribution of workers among sectors would work toward substantiating the claim.

Figure 4 shows labour force shifts across the sectors.

Figure 4

Productive Sectors of the N.W.T. by Labour Force Size
for 1971 and 1981



Notes: The unshaded column refers to 1971.
The shaded column refers to 1981.
These figures do not include the unemployed.
"Other" includes unclassified industries.

Source: Statistics Canada: Custom Tabulations from 1971 and 1981
Census of Population and Housing

Between 1971 and 1981, the only shift in the labour force between sectors was a decrease in the proportion of employees working in the land-based sector[24] and a decrease in the proportion of the labour force in the uncategorized industries. The labour force from these activities redistributed more or less evenly over the three wage-based sectors leaving the relative distribution the same for these sectors. In fact, the competitive sector increased by 5.2% from 23.6% compared to the 3.2% increase from 22.7%in the monopoly sector.

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[24] It must be reemphasized here that the diminishing size of the land-based sector as indicated here does not reflect the real value of the sector in the total economy.

While the distribution of the labour force across those sectors did not change, the educational profiles changed precisely as predicted. It was predicted that due to an increase in the supply of educated workers for whatever reason, the educated, rather than being absorbed into the monopoly sector would simply spill over into the competitive sector.

In the high occupation cells across sectors this is what occurred. Table 11 compares the 1971 and 1981 educational attainments of the sectors. We see that while the monopoly and competitive sectors increased their proportions of post secondary educated in the high occupations by 17% and 16% respectively from 46% to 63% and from 50% to 66%, the state sector increased its proportion by only 5% from 73% to 78%. The result was a decrease in the difference of the education profiles across sectors. If further study reveals that indeed there are sectoral differences in work rewards despite these increases in education, the structured nature of inequity among workers will be substantiated.

> *Between 1971 and 1981, the majority of native workers will still have educational attainments lower than the average non-native educational attainments. However, there will be a significant increase in the proportion of natives who match or are higher than the average non-native attainment. This increased education will have made little difference in the distribution of the native people across and within sectors except in the state sector.*

Table 11

N.W.T. Labour Force* Occupational Groups by Education** and Productive Sector*** for 1971 and 1981

	1971			1981		
	Monopoly	Competitive	State	Monopoly	Competitive	State
Managerial/Professional/Technical						
Grade 9 or less	12%	27%	8%	5%	10%	7%
Some or all high school	31	18	18	28	22	13
Trade	11	5	6	4	2	2
Some or all post secondary	46	50	73	63	66	78
Total %	100	100	100	100	100	100
Number	(325)	(220)	(1,350)	(845)	(645)	(3,170)
Educational Score	2.91	2.78	3.44	3.25	3.24	3.51
Skilled						
Grade 9 or less	21%	37%	28%	12%	18%	13%
Some or all high school	36	35	32	34	33	31
Trade	17	12	14	7	5	6
Some or all post secondary	26	16	26	47	44	50
Total %	100	100	100	100	100	100
Number	(825)	(775)	(720)	(1,505)	(1,575)	(1,440)
Educational Score	2.48	2.07	2.38	2.89	2.75	2.93
Semi-Skilled/Unskilled						
Grade 9 or less	36%	59%	43%	26%	40%	36%
Some or all high school	43	29	32	41	38	31
Trade	7	5	8	5	2	3
Some or all post secondary	14	7	17	28	20	31
Total %	100	100	100	100	100	100
Number	(1,055)	(1,315)	(1,330)	(2,120)	(2,555)	(2,120)
Educational Score	1.99	1.60	1.99	2.35	2.02	2.31

* Unemployed not included.

** Educational scores are ordinal, 4 being largest and 1 being lowest obtainable score. See Table 6.

*** Land-Based and uncategorized industries and occupations not included.

Source: Statistics Canada: Custom Tabulations of 1971 and 1981 Census of Population and Housing Data.

A comparison of native and non-native education between 1971 and 1981 (Table 12) shows that by 1981, 53% of the native labour force still had grade nine or less education (a decrease of 29% from 1971). On the other hand, the proportion of natives with "some or all post secondary" education had increased from 1% of that labour force to 20% of that labour force. How did these increases translate in the marketplace?

From Table 13, we see that between 1971 and 1981, the native labour force participation rate increased from 38.3% to 49.5%. This increase in participation was at the cost of non-native participation. By 1981, the native to non-native labour force had increased from a ratio of about 3:7 to 4:6.

Table 12

Native and Non-Native N.W.T. Labour Force*
by Education for 1971 and 1981

	1971		1981	
Education	Native	Non-Native	Native	Non-Native
Grade 9 or less	82	17	53	6
Some or all high school	14	40	24	32
Trades	3	10	3	4
Some or all post-secondary	1	33	20	58
Total %	100	100	100	100
Number	(3,260)	(7,090)	(7,115)	(11,080)

* Unemployed, uncategorized and land-based economic activities not included.

Source: Statistics Canada: Custom Tabulations from 1971 and 1981 Census of Population and Housing Data

Table 13

N.W.T. Labour Force Participation Rates Native* and Non-Native for 1971 and 1981

		1971 %	1981 N	1981 %
N.W.T. population of Labour Force Age (15-64)	Native	46.5	14,370	50.6
	Non-Native	53.5	14,005	49.4
	Total	100.0	28,375	100.0
Increase in population Aged 15-64 from 1971	Native	32.2	5,470	61.5
	Non-Native	58.5	3,785	37.0
N.W.T. population partipating in the Labour Force	Native	31.1	7,115	39.1
	Non-Native	68.9	11,080	60.9
	Total	100.0	18,195	100.0
Increase in Labour Force	Native	27.5	3,710	109.0
	Non-Native	57.8	3,535	47.0
Partipation Rate	Native	38.3	7,115/14,370	49.5
	Non-Native	73.8	11,080/14,005	79.1
	Total	57.3	18,195/28,375	64.1

* Native to include Indians (treaty and nontreaty), Metis and Inuit.
** 1971 taken from Table 3.

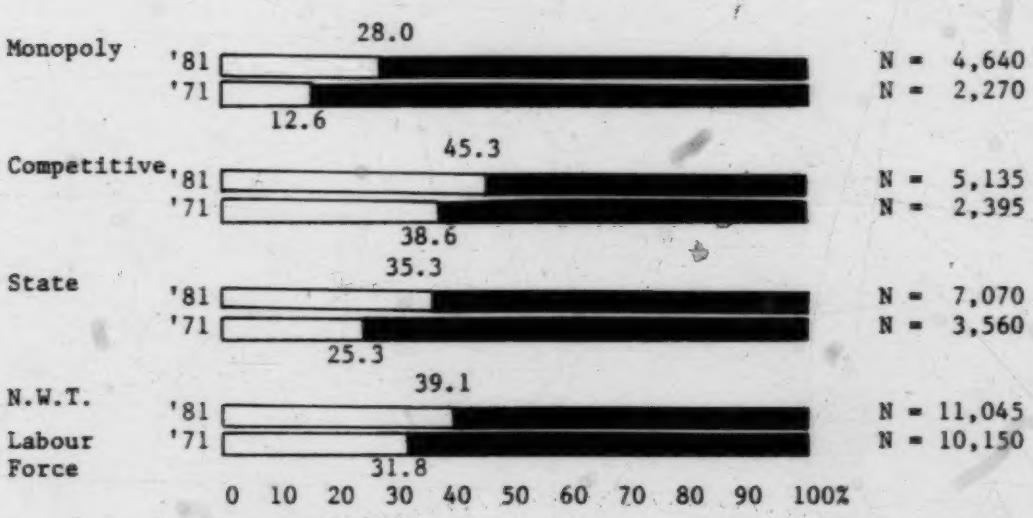
Source: Statistics Canada. National Series 1981 and Gov. N.W.T. Bureau of Statistics, Population by Ethnicity by Age by Sex 1981

How did the increased native labour force participation spread over the sector? Contrary to hypothesis, rather than native labour becoming increasingly concentrated in the competitive sector, there was a slight decrease in the proportion of natives in that sector. Figure 5 compares the 1971 and 1981 native proportions by sector. We see that native people were still underrepresented in the monopoly sector but not by as much. Natives increased their proportion of the monopoly sector from 12.6% to 28%, an increase of 15.4% in ten years. In the competitive sector, they increased their proportion by 6.7% from 38.6%. In the state sector, they increased their proportion by 9.9% from 25.3%. Though there was an increase in the competitive sector, it was less of an increase than in other sectors. Table 14 shows the net result of these increases in terms of native labour force distribution over the sectors. By 1981, proportionally less of the native labour force was engaged in the competitive sector than in 1971 while proportionally more of the non-native labour force was engaged in that sector.

The sudden movement of native people into the monopoly sector is curious. In 1971, only 12% of the sector was made up of native people. Unlike other sectors which filled the worker gap with less educated native people, this sector has had a tendency to use nonresident labour. That is, the sector has paid workers to commute from southern labour markets and to provide for these workers in camps in rotation shifts. The extent of the practice is made evident by the results of a small survey done of some monopoly firms operating in the North. With the exception of those mines which are accompanied by large mining towns such as Pine Point and Yellowknife, most firms have operated almost entirely with nonresident labour (Appendix D).

Figure 5

Proportions of Natives and Non-Natives in the N.W.T. Labour Force by Productive Sector for 1981



Notes: Unshaded area indicates native labour force.
Shaded area indicates non-native labour force.
Unemployed in the labour force are not included.

Source: Statistics Canada: Custom Tabulations from 1971 Census of Population and Housing Data

Table 14

Native and Non-Native Labour Force** by Productive Sector** for 1971 and 1981

Industrial Sectors	Native		Non-Native	
	1971	1981	1971	1981
Land-Based	14.9%	3.9%	1.5%	.2%
Monopoly	11.5	20.4	32.0	31.1
Competitive	37.3	36.6	23.7	26.1
State	36.3	39.1	42.8	42.6
Total %	100.0	100.0	100.0	100.0
Number	(2,480)	(6,360)	(6,205)	(10,747)

* Does not include the unemployed.

** Uncategorized industries are not included.

Source: Statistics Canada: Custom tabulations from 1971 and 1981 Census of Population and Housing Data.

The slight change away from this practice towards greater use of native labour can be explained in large part to be the result of the tremendous pressures put upon the sector by government and by native organizations to hire native. These pressures have only worked in the North due to the unsettled land claims card which the native groups are holding. This is analogous to the pressures put upon monopoly sector firms by labour unions.

As a result of the pressures, educational barriers are finally lifted, but with reservation still. As Table 15 shows, a significant number of natives have been allowed into the low occupation cell at lower educational levels but these levels are higher than the levels of native workers in any other sector. While among non-native workers there is no significant difference between the education profiles at the competitive and monopoly sector, for the native workers, a difference is maintained.

For the majority of resident non-native workers, geographic location is a key factor in determining their monopoly sector attachment. Most are residents of mining towns. For the native however, monopoly sector employment is subject more to the political forces described above and to market forces. Monopoly sector employment to the average native probably symbolizes a substantial increase in pay but it also represents work which is made compatible with land-based activities as described in earlier chapters. This combined with the fact that native workers seem more willing to work in camps than the resident non-natives (Gov. N.W.T., 1977) would make monopoly sector employment preferable to other markets. Thus native people would be made to compete rather rigorously among themselves for the quota of jobs

Table 15

Native and Non-Native N.W.T. Labour Force* Education** by Occupation*** and Productive Sector for 1971 and 1981

Education	Monopoly		Competitive		State	
	Top Occupations					
Native	1971	1981	1971	1981	1971	1981
Grade 9 or less	75%	28%	82%	35%	63%	34%
Some or all high school	25	32	18	24	19	23
Trade	0	4	0	3	7	4
Some or all post secondary	0	36	0	38	11	39
Total %	100	100	100	100	100	100
Number	(20)	(125)	(55)	(145)	(135)	(670)
Educational Score	1.25	2.48	1.18	2.47	1.66	2.48
Non-Native						
Grade 9 or less	8%	1%	9%	3%	2%	1%
Some or all high school	31	28	21	18	10	12
Trade	12	4	6	2	6	1
Some or all post secondary	49	67	67	74	80	88
Total %	100	100	100	100	100	100
Number	(305)	(720)	(165)	(505)	(1,215)	(2,505)
Educational Score	3.02	3.37	3.31	3.47	3.64	3.76

Table 15 - continued

Native and Non-Native N.W.T. Labour Force* Education** by Occupation*** and Productive Sector for 1971

Education	Monopoly		Competitive		State	
			Low Occupations			
Native	1971	1981	1971	1981	1971	1981
Grade 9 or less	76%	49%	90%	61%	85%	62%
Some or all high school	16	25	9	26	9	18
Trade	8	6	2	2	3	2
Some or all post secondary	0	19	0	11	3	11
Total %	100	100	100	100	100	100
Number	(185)	(770)	(665)	(1,455)	(520)	(1,115)
Educational Score	1.32	1.93	1.14	1.63	1.24	1.76
Non-Native						
Grade 9 or less	28%	13%	28%	11%	17%	6%
Some or all high school	48	50	50	54	47	44
Trade	7	5	8	3	11	4
Some or all post secondary	17	32	14	32	25	46
Total %	100	100	100	100	100	100
Number	(870)	(1,350)	(650)	(1,110)	(810)	(1,005)
Educational Score	2.13	2.56	2.08	2.56	2.44	2.90

* Labour Force does not include the unemployed.

** Education Scores are ordinal. See Table 9.

*** Top occupations include managerial, professional and technical occupations. Low Occupations includes semi-skilled and unskilled occupations.

Source: Statistics Canada: Custom Tabulations of 1971 and 1981 Census of Population and Housing Data.

"allowed" for native participation. This would explain in part, the relatively high educational profile of this group.

Native participation in the monopoly sector then, can be understood as less the result of their having overcome the educational barriers and more the result of their having put successful political pressure upon the sector to accommodate them. To hire and to provide the extra training that may be required for native people is obviously not impossible. This situation serves well to show how social needs can perhaps best be met by changing the structure rather than changing the native people themselves.

At first glance it may seem that the decreased proportion of native labour involved in the competitive sector may be due to their increased involvement in the monopoly sector; that with increased education, native people have been able to compete for the more preferred jobs in other sectors. An analysis of the ethnic and educational make-up of this sector reveals however that more probably, native workers who once commanded a large proportion of this sector have been pushed out by the non-native labour force and they have been pushed into unemployment. A significant shift has occurred in the N.W.T. labour force since 1971. Prior to 1971, most of the non-native residents in the N.W.T. went north only through state or monopoly sector sponsorship. Their employment was therefore confined to those sectors (Figure 1) and they were by and large unavailable for work in the competitive sector. Needing manpower, and also not being able to afford sponsorship of southern labour into the North, the competitive sector had to rely on native labour. There was too the fact that at that time, skills such as knowledge of community language and culture were useful given the product market.

All of these situations apply less today. Today, an economic recession in the South has made northern labour markets the target of non-natives looking for work. Some are in the North having arrived through state or monopoly channels but now unemployed. Many are the families of those employed in the other sectors. Others are now second- and third-generation northerners. Regardless, the number of non-natives seeking work in the North is greater today than it was in 1971. This eliminates the necessity of competitive sector firms having to import native labour at their own expense.

In addition to this change, in most communities the native languages and cultures have been eroded to the point that it is no longer necessary to be native to "serve." Retail clerks at the community level are often as not non-native, more so today than in the past.

In most cases, the non-natives looking for work are more educated than the native labour force. They may be more educated but given the unemployment situation, they could not command greater pay. For the competitive sector employers, the happy situation was created where they could displace less educated natives with more educated non-natives with the probability that there was no substantial increase in cost as a result. Native people, in order to compete in such a market had to suddenly produce educational credentials to match the non-natives. Thus we see a spectacular rise in the educational profile of the natives in the high occupations of this sector. Table 15 shows that by 1981, 38% of this group had "some or all post secondary education." Given that in 1971, this cell had the lowest education across all sectors and that by 1981, it was as high as any of the other sectors, the natives in the competitive sector high occupation group was forced to upgrade by the greatest amount.

Closer examination of the displacement of native labour for non-native labour in the top occupation cell reveals that it was not completely based upon educational criteria. Table 16 shows the educational and ethnic changes in the top occupation cell between 1971 and 1981. The non-native post secondary educated group increased by 7.4% which was expected. However, the non-natives with some or all of high school education also increased by 2.7%. Here was an opportunity to hire post secondary labour which was freely available in the lower occupations of the sector and instead, less educated non-natives were chosen to replace the positions opened by departure of the less educated or by expansion. (Table 15 shows that 11% of the natives in the low occupations of the sector had post secondary education). Regardless of what characteristics those non-natives might have had that were more valuable than those held by more educated natives, the situation points to the lack of correspondence between education and occupation. It is true that with the double standards imposed upon the labour force with the two sets of educational scales, the non-native labour force has been disadvantaged in the same manner. The crucial difference in impact is of course that the native labour force would perceive this contradiction among others as evidence that education was not necessarily the answer to economic betterment in the N.W.T. even before attaining the levels of education needed to be competitive in the labour market as a whole.

Insofar as the high occupations comprise such a small proportion of the market (Table 4), the major impact of the sector is still upon those participating in the low occupations of the sector. Theoretically, the

Table 16

Top Occupational Group* of Industrial Sectors of N.W.T. Labour Force by Education and Ethnicity for 1971 and 1981

	Monopoly		Competitive		State	
Education	1971	1981	1971	1981	1971	1981
Grade 9 or less						
Native	4.6	4.1	10.4	7.8	6.3	7.0
Non-Native	7.7	1.2	6.8	2.3	1.9	.3
Some or All High School						
Native	1.5	4.7	4.5	5.4	1.9	4.9
Non-Native	29.2	23.7	13.6	16.3	10.7	8.2
Trades						
Native	.0	.6	.0	.7	.7	.9
Non-Native	10.8	3.0	4.5	1.6	5.6	.9
Some or All Post Secondary						
Native	.0	5.3	.0	8.5	1.0	8.2
Non-Native	46.2	57.4	50.0	57.4	71.9	69.4
Total %	100.0	100.0	100.0	100.0	100.0	100.0
Number	(325)	(845)	(220)	(645)	(1,350)	(3,170)

* Top Occupational Group includes Managerial, Professional and Technical Occupations.
** Labour Force does not include unemployed.

Source: Statistics Canada: Custom Tabulations from the 1971 and 1981 Census of Housing and Population Data.

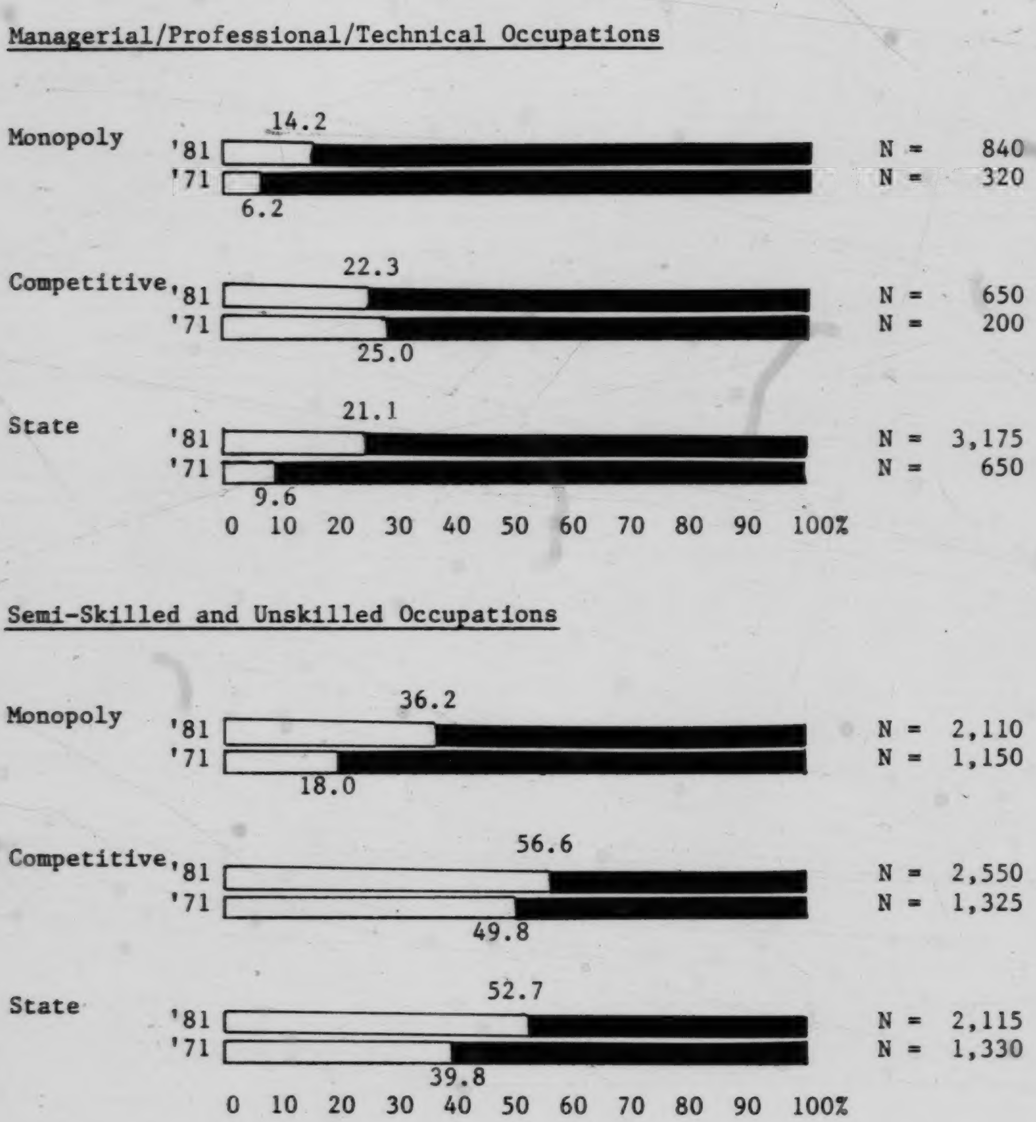
low occupations of this sector would comprise the least preferred cell in the whole labour market. It is the one place where one would not have expected native people to have to compete with non-natives to gain employment. It would seem however they did compete with non-natives and lost.

Natives in the low occupation cells of other sectors fared better in terms of native proportional growth even though native people had the highest proportional representation in the competitive sector. Here again, as in the top occupation group of this sector, natives were having to contend with a new challenge from a non-native group. Table 15 shows that by 1981, the non-native labour force in the semi-skilled and unskilled jobs of the competitive sector had increased its educational profile to meet that of its counterpart in the monopoly sector. This could be for two possible reasons. First, in the mind of the non-native participants, the low occupation cells of the two sectors may have been equal in their drawing power. Second, it may have been that in order for the non-natives in the low occupation cell of the competitive sector to keep their jobs as they competed with lower educated native people, they had to offer more education without demanding more pay.

The end result was an increase in the proportion of natives in the low occupation cell of the competitive sector, but a modest one in contrast to the increases in other sectors. There was a 18.2% increase from 18.0% in the monopoly sector, a 12.9% increase from 39.8% in the state sector and a 6.8% increase from 49.8% in the competitive sector (Figure 6). It would seem then that the native labour force had not become more concentrated in the competitve sector as anticipated.

Figure 6

Proportions of Natives and Non-Native Labour Force in the N.W.T. by Occupational Group and by Productive Sector for 1971 and 1981



Notes: Unshaded area indicates native labour force.
Shaded area indicates non-native labour force.
Unemployed in the labour force are not included.

Source: Statistics Canada: Custom Tabulations from 1971 and 1981 Census of Population and Housing Data

Native people are still having to struggle more with unemployment than competitive sector employment despite some gains educationally.

Thus far we have seen that the changes in native labour force distribution throughout the productive sectors were likely due less to educational factors and more due to labour market forces such as native political pressures upon the monopoly sector and the increased supply of educated labour. We turn now to examine more closely what became of the educated native labour force. Were they as hypothesized, shut out of the monopoly sector?

Table 17 shows us that there was very little difference across the sectors in the proportion of highly educated who were native. If anything, the monopoly sector could boast having a higher proportion of highly educated natives than the state sector. It would be misleading however, to leave our observations at that point. Table 17 also shows us that in the competitive and state sectors about 12% of the highly educated in the primary jobs were native. In the monopoly sector, only 9.5% were native. The sectors varied too in the extent to which they assigned their highly educated natives to the high occupation cells. In the state sector, almost 73% of the native educated could be found in primary occupations. Contrast this with the monopoly sector where only 41.8% of the highly educated natives could be found in primary occupations. It is possible that this group of relatively highly educated natives would not exist in the monopoly sector were it not for the pressures put upon the sector to "hire native." If indeed this group exists only because of that pressure, it is possible to see how the highly educated native would indeed tend to be confined to the other two sectors. If the political pressure is ever released, it is likely

Table 17

Highly Educated* Native and Non-Native N.W.T. Labour Force** by Productive Sector and Occupation Groups*** for 1981

	Monopoly	Competitive	State
Primary Occupations			
Native	9.5%	12.4%	12.7%
Non-Native	90.5	87.6	87.3
Total %	100.0	100.0	100.0
Number	(1,215)	(1,050)	(3,065)
Secondary Occupations			
Native	28.1	25.3	26.4
Non-Native	71.9	74.7	73.6
Total %	100.0	100.0	100.0
Number	(570)	(415)	(550)
Total Occupations			
Native	15.4	16.0	14.8
Non-Native	84.6	84.0	85.2
Total %	100.0	100.0	100.0
Number	(1,785)	(1,465)	(3,615)
Native High Education			
Primary Occupations	41.8	55.3	72.9
Secondary Occupations	58.2	44.7	27.1
Total %	100.0	100.0	100.0
Number	(275)	(235)	(535)
Non-Native High Education			
Primary Occupations	72.8	74.8	86.9
Secondary Occupations	27.2	25.2	13.1
Total %	100.0	100.0	100.0
Number	(1,510)	(1,230)	(3,080)
Total High Education			
Primary Occupations	68.1	71.7	84.8
Secondary Occupations	31.9	28.3	15.2
Total %	100.0	100.0	100.0
Number	(1,785)	(1,465)	(3,615)

* High education refers to a trades certificate, a post-secondary certificate or diploma, some university, and any university degree.

** Does not include the unemployed.

*** Does not include uncategorized occupations or industries.
Primary occupations includes managerial, professional, technical and skilled.
Secondary occupations includes semi-skilled and unskilled.

Source: Statistics Canada: Custom Tabulations of 1981 Population and Housing Data that the labour markets would behave very much in the mode described by the theoretical literature.

Among the non-native highly educated, the spread among the sectors is not nearly so great nor at so low a level. It is lowest in the monopoly at 72.8% and highest in the state at 86.9%. The fact that generally, the monopoly puts only about 68% of its highly educated into its higher occupation jobs compared to the 85% in the state suggests again that on-the-job training and experience is an important factor for mobility in the monopoly sector of the N.W.T.

In our attempt to describe what became of the educated native labour force we are led to comparing sectoral differences in native group mobility.

A breakdown of the sectoral distribution into occupational groups shows that there were sectoral differences in the distribution of natives to occupation groups. Figure 6 shows that the monopoly sector increased native proportions in the top occupations by 8% but in the low occupations increased it by 16%. This is a difference of 8%. The state sector by contrast increased native proportions in the top occupations by 11.5% and in the low occupations by 12.9%. The 1.4% difference in the rates of increase shows the state sector as most evenly increasing native proportions across all occupations. To the extent then that the monopoly sector had markedly increased its proportion of natives, it had also assigned more to the lower occupations than the other sectors.

The competitive sector here yields a curious situation. We saw that this sector increased its proportion of natives the least of all sectors. Figure 6 shows that this sector also actually decreased the proportion of natives working in its high occupations by 2.7%. This was coupled with a relatively moderate increase of 8.8% in the proportion of natives in its low occupation cell.

Given the above described distribution of the native labour force, what was the final outcome in terms of their sectorally differentiated occupational profiles? Table 18 shows that in 1971, 7% of the native labour force in the monopoly sector was in the top occupation cell and that in ten years, it increased by just 2%. In the competitive sector, there was no change in the top occupation cell. In the state sector however, the proportion of the native labour force in the top occupations increased from 14% to 27%. In essence, any occupational mobility that the native labour force experienced between 1971 and 1981 could be attributed to state sector mobility.

Table 18 also shows that there was an 8% - 9% decrease in the low occupations of the monopoly and state sectors even if there wasn't a corresponding movement upwards. Closer analysis shows that there was a 5% and 7% increase in the proportion of natives assigned to the "Other Occupation" category in the monopoly and competitive sectors respectively. This categorization is consistent with this author's observations of the North. In the last ten years there has been a plethora of nebulous positions created for native people: such positions as interpreter translaters, liaison officers and public relations people. These positions, though providing greater status and pay than many of the secondary jobs in the competitive sector, seemed also to suffer from a lack of permanency.

Table 18

Native and Non-Native Industrial Sectors* of the N.W.T. Labor Force** by Occupational Groups for 1971 and 1981

	Native						Non-Native					
	Monopoly		Competitive		State		Monopoly		Competitive		State	
	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981	1971	1981
Managerial/ Professional/ Technical	7%	9%	6%	6%	14%	27%	15%	22%	10%	18%	46%	55%
Skilled	21	22	19	21	20	20	38	37	42	39	20	21
Semi-Skilled/ Unskilled	67	59	71	62	59	45	43	40	45	39	30	22
Other	5	10	4	11	7	8	4	1	3	4	4	2
Total %	100	100	100	100	100	100	100	100	100	100	100	100
Number	(285)	(1,300)	(925)	(2,325)	(900)	(2,485)	(1,985)	(3,340)	(1,470)	(2,810)	(2,660)	(4,575)

* Industrial Sectors do not include the land-based economic activities or the uncategorized industries.
** Labour Force does not include the unemployed.

Source: Statistics Canada: Custom Tabulation of 1971 and 1981 Census of Population and Housing Data.

Was the lack of native group mobility in the monopoly and competitive sectors due to a lack of educated natives? Table 15 showed us that across all sectors in the high occupation cell, firms were demanding the highest credentials of natives. But on the other hand we are also aware that the sectors behaved differently in terms of the proportion of native people finally allowed into the high occupations (Figure 6).

Table 17 shows us that in the monopoly and competitive sectors, from 58% to 45% respectively of the native high educated are assigned to secondary occupations. This suggests that approximately one-half of the native educated in those sectors are not rewarded with occupational mobility. Obviously the lack of native mobility in those sectors over the ten year period to 1981 was not due to a lack of educated native personnel to choose from. It was noted previously that on-the-job training and experience likely had much more to do with mobility in the monopoly sector than in other sectors. Given the lack of native numbers in the lower occupational cell in 1971, it is not surprising that few made it to the top occupations in the N.W.T. by 1981. The increase in numbers in the lower occupations by 1981, however holds promise for future native mobility on condition that they are able to build up seniority through experience and good work records. The state sector, in comparison to the monopoly and competitive sectors, rewarded 73% of its high educated natives with high occupations. Not only did the state hire a large proportion of natives, it consistently rewarded those natives with higher education.

It can be said then, that the lack of native mobility in the competitive and monopoly sectors cannot be attributed to the lack of educated native people. As their educational stock increased the educated simply replaced the less educated and the proportion of the native labour force in high occupations remained constant. Native educated exceeding that number were simply relegated to the secondary occupations.

Summary of Observations

Analysis of the N.W.T. labour force data for 1971 and 1981 broadly support the hypotheses regarding education, native labour and labour market segmentation. At the outset it was found that the hinterland location does produce a skewed monopoly sector: one which is not as dominated by primary occupations as in the national sector, and one which is appendaged with a larger secondary occupation cell. The net effect of this is not seen to be in the way that the sector affects work rewards or conditions of work as much as restricting occupational opportunities for those wishing to remain in the N.W.T.

It was found also that the sectors do tend to follow educational lines with the higher educated tending to be in the monopoly sector than the competitive sector. This is only a problem if indeed there are differences in work rewards for the two sectors. In essence it allows for the inequitable situation where workers in the competitive sector engage in the same work as those in the monopoly sector but with less education and theoretically, less pay.

It was hypothesized that in a segmented market situation, the supply of workers determined the educational criteria of the separate sectors more than skill needs per se. As predicted, the data revealed that when educated labour was in short supply as in 1971, the monopoly and state sectors used their resources to import necessary educated labour, or were able to attract the most educated in the available labour pool. As a consequence, the monopoly sector used very little native labour. The state on the other hand, presumably through an affirmative action type policy, hired many natives despite their low educational attainments in addition to the more educated imported non-natives. The competitive sector, having little choice, employed available native labour at all occupational levels, thus concentrating to some extent, native labour in its labour market.

The 1981 data showed however, a reversal in this trend which could not be attributed to increased educational attainments in the native labour force. Native people became slightly less concentrated in the competitive sector and much more participant in the monopoly sector. The decreased concentration in the competitive sector was explained to result from an increased availability of a more educated labour force at large.

Despite increases in education of the labour force in general, the relative distribution of the labour force among the segmented markets remained the same. Consequently, increased education simply meant that more of the educated were being forced into the competitive sector and theoretically, forced to accept less pay than their educated counterparts in the monopoly and state sector.

In addition to this, the more educated natives replaced the less educated who previously occupied high occupations and the proportion of natives in high occupations remained constant. Moreover, in the monopoly and competitive sectors 45%-59% of the high educated natives were relegated to the secondary occupations. Of the three wage based sectors, it was only the state which recorded aggregate occupational advances for the native people who had perceptibly increased their educational stock over the ten years to 1981.

In terms of intersectoral mobility over time, it is true that native people did significantly increase their proportions in the monopoly sector but further analysis indicated that this increase was probably due to the political pressure applied to the sector to "hire native." Moreover, most of the native people participating in this sector were assigned to the secondary occupations and a larger proportion of those in the secondary occupations were high educated than any other sector.

Conclusion

By 1971, certain contradictions were already becoming apparent in the N.W.T. Despite two decades of massive formal education and despite the North being opened to exploration and industry as never before, northern native people were no more participant in the labour force than they had been ten years earlier. Stratification theory claims that education would solve the problem of native poverty and underdevelopment had not been met.

An alternative theoretical framework called labour market segmentation was studied. This theory explained poverty as accruing to a certain labour market segment whose workers were made to suffer job insecurity, low work rewards and generally bad working conditions. Poverty was described as a structured part of the economy, not caused by negative worker characteristics. The potential of this theory in explaining the increasingly evident contradiction in the N.W.T. became even more attractive as it described the principal productive sectors which made up the structure. There was a competitive sector which produced the unfavourable market composed of small firms aggressively competing in a relatively uncontrolled product market with relatively small profits; then there was a monopoly sector characterized by the concentration of capital in its firms, a sector which was easily synonymous with the dominating nonrenewable resource industries in the North; finally there was a state sector which monitored social and industrial needs and attempted to coordinate the two. The theory went on to describe the propensity for visible minorities, women, immigrants and other disadvantaged groups to be concentrated in the competitive sector, often despite their educational attainments; hence, their relative poverty. Could it be that this was the source of evident contradictions in native education and persistent poverty?

In this thesis, the N.W.T. labour force census data for 1971 and 1981 were the basis for study. The data was custom tabulated by Statistics Canada so that they would conform to the productive sector categories which were identified to exist in the North. Ethnicity and education were cross tabulated with the sectors to allow an examination of the interplay of those variables.

The results showed that in 1971 when educated workers were relatively in short supply in the N.W.T., natives, despite their very low educational profiles, were participating in some measure beside considerably more educated non-natives in the state and competitive sectors. They were hardly evident in the monopoly sector however. Both the monopoly and state sectors were importing educated workers, whereas the competitive sector was making do with available labour, largely natives with low education.

By 1981, native people had gained much more education but they were at that point having to compete with a new pressure from non-natives to find employment in the competitive sector. Here native people lost ground as the less educated of them were supplanted with more educated natives and with non-natives who were not necessarily as educated. The state was the only sector to provide an avenue for native advancement. Significantly, the native labour force made inroads into the monopoly sector indicating the possibility that the political pressure applied by the native groups with their land claims, had proved successful.

Extrapolating these findings into the future, what can we expect? We can expect first and foremost, that native youngsters will become increasingly confused and cynical about the need for further education as they find that increased education does not better the lifestyle or living conditions for a greater proportion of their people. Also in the future, a large proportion of the native people will likely continue to slide between the competitive sector and unemployment. Were it not for the mitigating effects of the state sector as a native employer, this group would likely be much larger. Finally, continued monopoly sector participation for native people will likely be based entirely on whether they continue their claim for the land and whether the monopoly sector continues to perceive their claim as legitimate.

Several areas for further research have been indicated by this study. First and foremost, a study must be done to establish the existence of differential wage returns and working conditions in the various sectors. To this end, the nonrenewable resource industries might be more carefully studied to see whether native workers are being given the on-the-job training required for mobility within the industries, and to check whether their participation in the special rotation work schedules are handicapping their training. It would be possible that in bowing to political pressure the industries have produced a dead-end reservoir which does not network into the existing career ladders.

The state sector is especially vulnerable to these kinds of solutions when faced with affirmative action pressures to hire native. Here too research into the native jobs in the state sector would be particularly useful if only in terms of the sheer number of native people involved in that sector. This researcher has observed that all too often, vague job descriptions, administrative and hierarchical vacuums, and unreasonable expectations surround the educated mobile natives. These are situations which contribute to high burnout, high turnover and other behaviour not conducive to lasting occupational advancement.

Another area for possible research is in describing precisely to what extent and how, native people in the various sectors engage in the land-based sector. This information would, in addition to the land-use studies done by the native organizations, contribute to the argument that this sector has the potential of being more productive than it is at present. Finally, present native attitudes toward education might be studied to ascertain to what degree a seeming lack of motivation is socially induced, and to what degree it is economically induced.

In terms of its theoretical implications, this study has shown the importance of understanding the segmented markets from a dynamic perspective. Conditions such as an economic recession, monopoly sector expansion, and worker migrations will all affect the patterning of worker characteristics among given productive sectors. While at one time the monopoly sector may be occupied with workers who are relatively more educated, at another time, the educational make-up of the sectors may not differ at all.

Two basic segmentation concepts which were key to this research were first, that the monopoly sector has capital resources which the competitive sectors does not and these are used in attracting what are considered the most productive workers. The second concept was that regardless of the labour force characteristics which ostensibly make workers more productive, the monopoly sector will not expand to take up all the available workers. The distribution of the produced surplus is limited by the size of the monopoly sector. This latter condition is the source of the contradictions which are becoming evident in native education and labour market placement today.

If significant differential effects are found, the implications for change are many. The structural inequity which creates a competitive sector must be addressed first and foremost. The very structure which allows monopoly sector dominance must be addressed. Political intervention causing a deconcentration of capital in the monopoly sector, or conversely a stabilization of market for the competitive sector would help to depolarize the markets. In this scenario, the land-based sector must be given due emphasis as potentially accommodating a range of economic activity which would be more familiar to the native people and the physical environment. The moves by native organizations to attempt to take greater control over the resource industry operating in the North and to promote land-based industrial activities which work in tandem with traditional land use are precisely in line with this analysis.

In light of the preceding observations, it is too facile to say that native development can be brought about by expanding their education. There are too many variables working against this as the only solution. To be sure native people must be further encouraged and allowed to expand their education. But the North must move away from standardized education and move into education for development in the most concrete sense. It is obvious that as a hinterland and dependent economy, creative solutions to the economic problems will not be easily administered. And yet it is certain that the economic development of the North and its people will arise from creative solutions. Creative solutions, both in their formulation and in their implementation require a certain kind of education - education which does not simply test knowledge and skill on the basis of national averages. It is the kind of education which can only follow upon the heels of structural change. It cannot precede it. On the other hand, it can support and speed it.

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APPENDIX A

CLASSIFICATION OF CORE AND PERIPHERY SECTORS

Boyd and Humphreys (1979)

Classification of Core and Peiphery Sectors

Cores Sector -- High Concentration Industries

Utilities, Transportation, and Communication
Finance, Insurance, and Real Estate
Mining
Public Administration
Manufacturing I

Periphery Sector -- Low Concentration Industries

Trade Construction
Personal, Business, Community Services
Agriculture, Forestry, and Fishing
Manufacturing II

APPENDIX B

INDUSTRIAL GROUPS

Industrial Groups

The following industrial groups were constructed to be proximes for the productive sectors of the N.W.T. economy. The number codes are based upon 1971 Canada Census Industrial Codes and Classifications. The final groupings were used in retrieving information from the data bank of Statistics Canada.

1.	Total in Labour Force		
2.	Group A:	Land-Based Sector	
		001-021	Agriculture
		031-039	Forestry
		040-047	Fishing and Trapping
3.	Group B:	Monopoly Sector	
		050-099	Mines Quarries & Oil Wells
		701-737	Finance, Real Estate, and Insurance
4.	Group C:	Competitive Sector	
		101-399	Manufacturing Industries
		602-699	Trade
		831	Religious Organizations
		841-849	Amusement and Recreation Services
		851-869	Services to Business Management
		871-879	Personal Services
		881-886	Accommodation and Food Services
		891-899	Miscellaneous Services
5.	Group D:	State Sector	
		902-991	Public Administration and Defence
		801-809	Education and Related Services
		821-828	Health and Welfare Services
6.	Group E:	Competitive Sector	
		404-421	Construction Industries
7.	Group F:	Monopoly Sector	
		501-579	Transportation, Communication and Utilities
8.	Group G:	Industry not elsewhere classified or stated	
9.	Group H:	Unemployed, that is, never worked or only worked prior to January 1, 1970 or 1980 as the case may be.	

APPENDIX C

OCCUPATIONAL GROUPS

Occupational Groups

The following occupational groups were constructed to more closely align with categories of skill requirements. The number codes are based on the 1971 Occupational Codes and Classifications for Canada Census. The final groupings were used in retrieving information from the data bank of Statistics Canada.

1. Total in the Labour Force
2. Group #1: Managerial, Professional, Technical

1111-1179	Managerial, Administrative and related
2111-2189	Occupations in natural sciences, engineering and math.
2311-2399	Occ. in social sciences and related
2511-2519	Occ. in religion
2711-1799	Teaching and related
3111-3119	Health diagnosing and treating occ.
3130	Supervisors: nursing occupations
3131-3133	Nurses, graduate, except supervisors/ nurses-in-training
3137	Physiotherapists, occupational and other therapists
3151-3159	Other occupations in medicine and health
3311-3319	Occupations in fine and commercial art, photography and related
3330-3339	Occupations in performing and audio-visual arts
3352-3359	Occupations in writing
3370	Coaches, trainers, instructors and managers, sport and recreation
3371	Referees and related officials
3373	Athletes
5191	Buyers, wholesale and retail trade
6116	Commissioned officers, Armed Forces
6141	Funeral directors, embalmers and related
8116	Inspecting, testing, grading, sampling occupations: mineral ore treating : metal processing : chemicsla, petroleum rubber, plastic and related : metal shaping and forming, except machining : machining n.e.c. : fabricating and assembling metal products n.e.
8535	Electronic and related equipment installing and repairing occupations

Occupational Groups - continued

8736	Inspecting, testing, grading, and sampling occupations: electrical power, lighting, and wire communications, equipment erecting, installing and repairing
8796	Inspecting, testing, grading and sampling occupations: construction except electrical
9111	Air pilots, navigators and flight eng.
9113	Air transport operating support occ.
9151	Deck officers
9153	Engineering officers, ship

3. Group #2: Skilled

Supervisors
4110, 4130, 4140, 4150, 4160, 4170, 4190, 5130, 5120, 5190, 6120, 6130 /6131, 6190, 9910, 6160

Foremen
7710, 8110, 8130, 8150, 8160, 8210, 8230, 8250, 8260, 8290, 8310, 8330, 8350, 8370, 8390, 8510, 8530, 8540, 8550, 8570, 8580, 8590, 8710, 8730, 8780, 9110, 9130, 9170, 9190, 9310, 9510, 9530, 9550, 9590

Skilled clerical-sales-service
3134, 3339, 4111, 4131, 4143, 4192, 5131, 5133, 5171, 5172, 5173, 5174, 5177, 9553, 9557

Skilled crafts and trades
6111, 6112, 6113, 8131, 8133, 8135, 8137, 8141, 8143, 8151, 8155, 8161, 8163, 8165, 8167, 8231, 8311, 8313, 8316, 8333, 8335, 8337, 8351, 8376, 8391, 8391, 8395, 8399, 8525, 8529, 8537, 8541, 8553, 8555, 8581, 8582, 8583, 8584, 8585, 8586, 8588, 8591, 8592, 8731, 8733, 8735, 8781, 8782, 8784, 8785, 8591, 8795, 9119, 9131, 9133, 9311, 9511, 9512, 9513, 9514, 9515, 9517, 9531, 9539, 9551, 95555, 9557, 9559, 9916

4. Group #3: Semi-skilled

Semiskilled clerical-sales-service

3135, 3139, 4113, 4133, 4135, 4137, 4139, 4141, 4151, 4153, 4155, 4157, 4159, 4161, 4169, 4171, 4175, 4191, 4193, 4195, 5135, 5137, 5179, 5193, 5199, 6123, 6125, 6143, 6144, 6145

Occupational Groups - continued

4. Group #3 continued

Semiskilled crafts and trades
6117, 6121, 7711, 7713, 7715, 7717, 7719, 8111, 8113, 8115, 8149, 8153, 8156, 8171, 8173, 8211, 8213, 8215, 8223, 8225, 8226, 8227, 8233, 8235, 8236, 8251, 8253, 8256, 8261, 8263, 8265, 8267, 8271, 8273, 8275, 8276, 8293, 8295, 8296, 8315, 8319, 8331, 8334, 8339, 8353, 8355, 8356, 8357, 8371, 8373, 8379, 8393, 8511, 8513, 8515, 8523, 8527, 8531, 8533, 8534, 8536, 8546, 8549, 8551, 8557, 8561, 8562, 8563, 8566, 8569, 8571, 8573, 8575, 8576, 8587, 8589, 8595, 8596, 8711, 8713, 8739, 8783, 8786, 8787, 8793, 8799, 9135, 9157, 9171, 9179, 9191, 9193, 9315, 9519, 9591, 9599

5. Group #4: Unskilled

Unskilled clerical-sales-service
4172, 4173, 4177, 4179, 4194, 4197, 4199, 5141, 5143, 5149, 6129, 6139, 6147, 6149, 6199

Unskilled labourers
3375, 3379, 5145, 6115, 6119, 6133, 6135, 6162, 6165, 6169, 6191, 6193, 6198, 77138, 8118, 8119, 8148, 8158, 8159, 8178, 8179, 8217, 8221, 8228, 8229, 8238, 8239, 8258, 8259, 8278, 8279, 8298, 8299, 8359, 8528, 8538, 8539, 8548, 8568, 8578, 8579, 8593, 8598, 8599, 8715, 8718, 8719, 8738, 8798, 9139, 9155, 9159, 9173, 9175, 9199, 9313, 9317, 9318, 9319, 9518, 9918, 9919

6. Group #5: Land-based activities

7112-7197	Farming, horticultural and animal husbandry occupations
7311-7319	Fishing, hunting, trapping and related occupations
7510-7519	Forestry and logging occupations

7. Group #6: Occupations not stated

8. Group #7: Unemployed, that is, never worked or only worked prior to Jan. 1, 1970 or 1980 as the case may be.

APPENDIX D

SURVEY OF MONOPOLY FIRMS' USE OF NONRESIDENT LABOUR

Survey of Monopoly Firms' Use of Nonresident Labour

Below is the covering letter sent to ten monopoly firms in the Mackenzie area of the N.W.T. Following that is the survey form itself and the results of the survey.

Dear Sir or Madam:

I am engaged in graduate level research at the University of Alberta in Edmonton. My current research projected, funded by the Boreal Institute in Edmonton, explores employment patterns in the N.W.T. I ask your cooperation in providing information as to the make-up of the employees engaged at your operation by filling in the following questionnaire and returning it to me at your soonest. Enclosed please find a self-addressed stamped envelope for your convenience.

I thank you for your time and effort.

Sincerely,

Currently, of a total ______ employees (full and part time) engaged in your operation:

1. What number are residents* of the N.W.T.? ______
2. What number are nonresidents of the N.W.T.? ______

*What is your definition of resident; i.e., how many months must they be resident in the N.W.T. before they qualify as resident in the N.W.T.? ______ months.

Date ____________________

Signature ____________________________

Please Return to: M. Oishi
Box 429
Beaumont, Alta.
TOC OHO

Survey* of Monopoly Industry Firms
Resident and Nonresident Employees, 1984

Firm	Resident N	Nonresident N	Total	Definition of Residency
Pine Point	565	30	595	3 months
Esso - Beaufort	160	83	243	12 months
Tungsten Mining	195	5	200	1 month
Giant Mines Yellowknife	285	15	300	3 months
Gulf - Beaufort	187	373	560	12 months
Terra Mining	4	111	115	12 months
Echo Bay Mines	32	268	300	Principal Place of Dwelling
Cominco - Yellowknife	No reply			
Dome Beaufort	No reply			
Esso Norman Wells	No reply			

APPENDIX E

ETHNIC GROUPS

Ethnic Groups

The following ethnic groups were identified for purposes of retrieving information from the Statistics Canada data bank. Native was to include Indian (both treaty and nontreaty), Eskimo, and Metis (where applicable).

1. Total in Labour Force
2. Native
3. Other

APPENDIX F

EDUCATIONAL GROUPS

In order to retrieve educational information on the N.W.T. labour force from the Statistics Canada data bank for 1971 and 1981, two sets of educational categories were constructed using census categories applicable to each year. The categories were constructed to match as closely as possible. In ColumN I, the categories used in retrieval are given. In Column II, the categories are converted to the categories used in the final analysis of data.

Column I	Column II
1971	
Less than Grade 9	Less than Grade 9
Grade 9 - 13 without other training	Some or all of high school
Grade 9 - 13 with some other training	Vocational training with or without high school
Some other post secondary training	
Vocationgl training and other post secondary education	Post secondary education
University with or without a degree	
1981	
Less than grade 9	Less than grade 9
Grades 9 - 13 without diploma High school diploma	Some or all of high school
Trades certificate	Vocational training with or without high school
Post secondary nonuniversity with or without certification of diploma	Post secondary education
University with or without a degree	

APPENDIX G

LIST OF TABLES

List of Tables

The tables titled below were custom tabulated by Statistics based upon the industrial, occupational, ethnic and educational categories described in previous appendices. The information retrieved by these tables formed the data base for this research project. The tables are available for public use at the Boreal Institute Library, University of Alberta, Edmonton.

1. Population 15 years and over in the Labour Force and not attending school full-time, by User Defined Industry Groups based on 1971 Standard Industrial Classification Codes(9), by User Defined Ethnic Groups(3), by User Defined Occupational Groups based on 1970 Standard Occupation Classification Codes(8) and by Highest Level of Educational Attainment(11) for Northwest Territories. 1971 Census of Population and Housing Data.

2. Population 15 years and over in the Labour Force (1971 definition) and not attending school full-time, by User Defined Industry Groups based on 1971 Standard Industrial Classification Codes (9), by User Defined Ethnic Groups (3), by User Defined Occupation Groups based on 1970 Standard Occupation Classification Codes (8) and by Highest Level of Educational Attainment (11) for Northwest Territories. 1981 Census of Population and Housing Data.